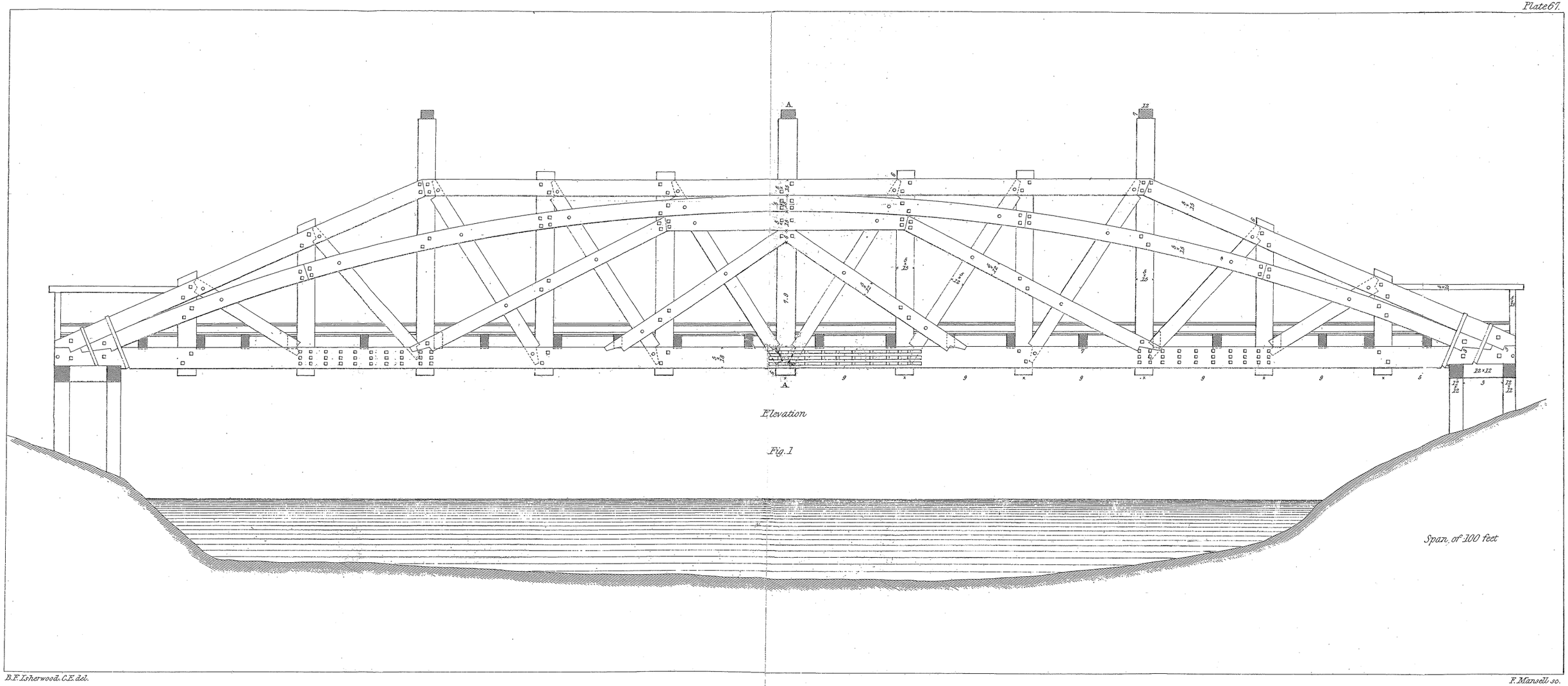


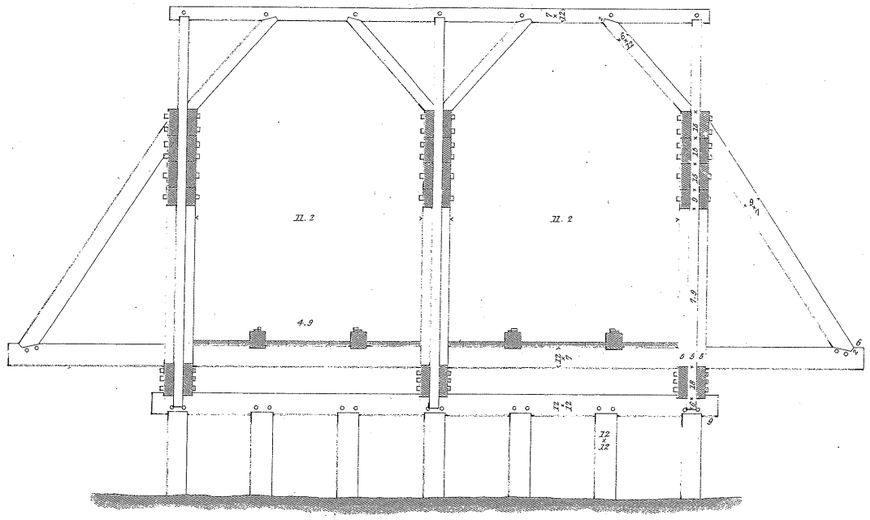
Elevation

Fig. 1

B.F. Isherwood. C.E. del.

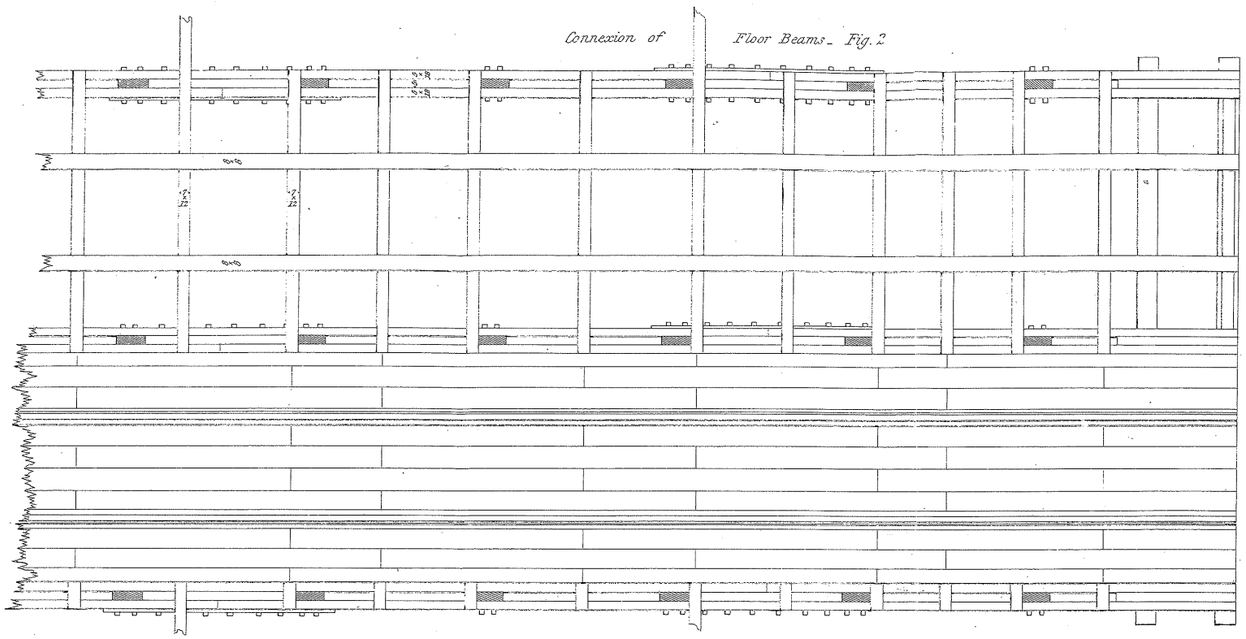
F. Mansell. sc.

Published by John Weale, 59, High Holborn, November 1, 1842.



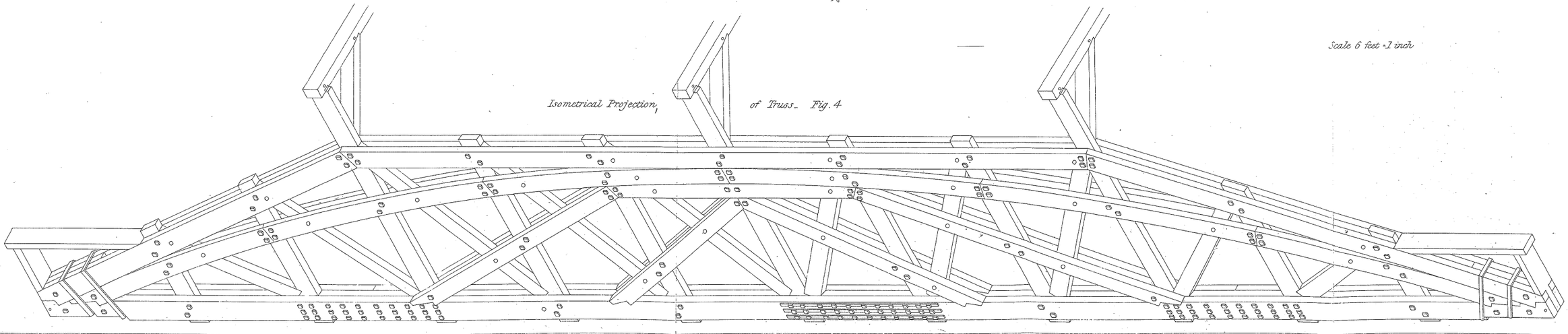
Section on line A.A. Fig. 3

Connexion of Floor Beams. Fig. 2



Scale 6 feet = 1 inch

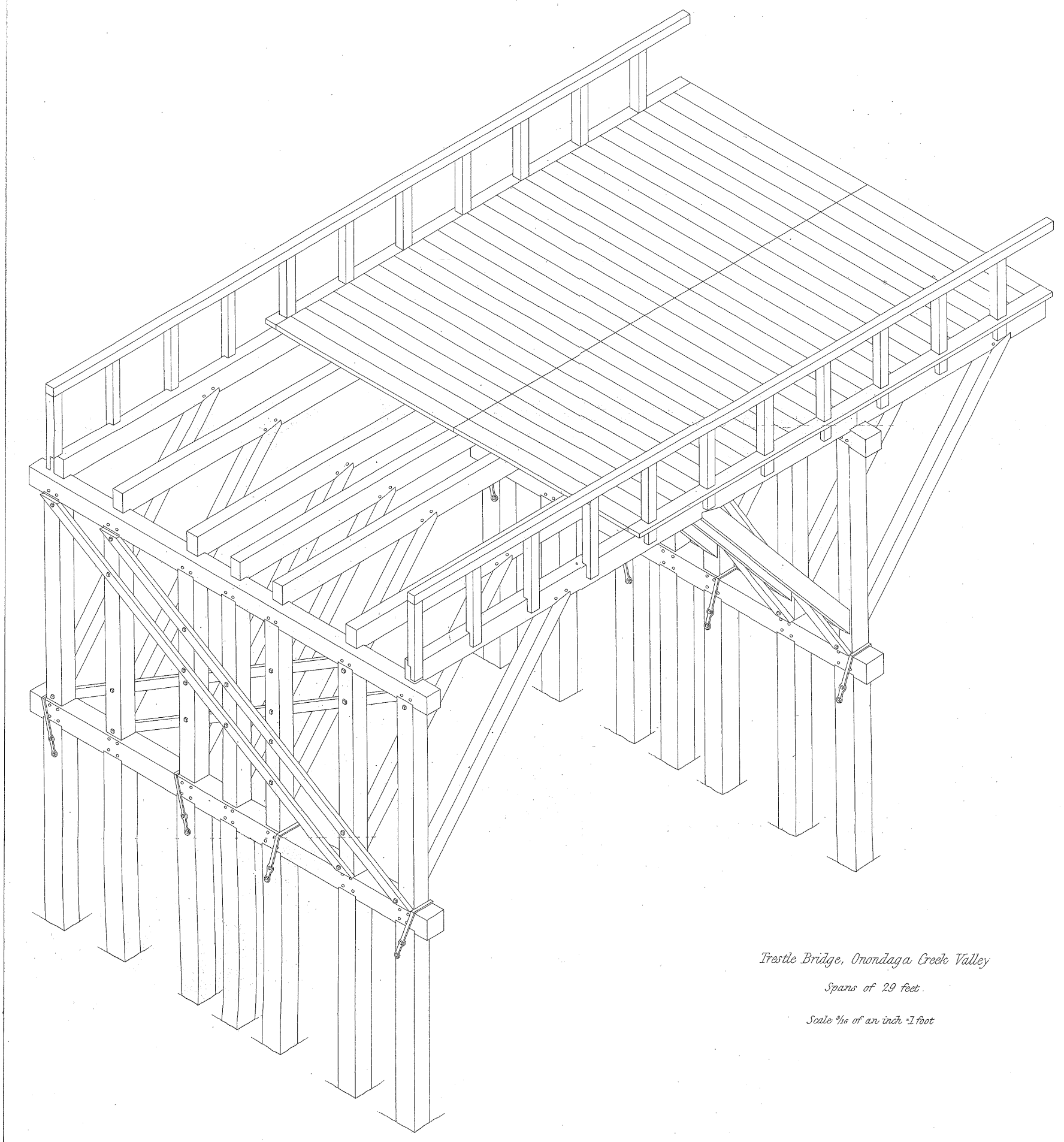
Isometrical Projection of Truss. Fig. 4



B.F. Isherwood. C.E. del.

Published by John Weale. 59. High Holborn. November 1 1842.

F. Mansell. sc.



Trestle Bridge, Onondaga Creek Valley

Spans of 29 feet.

Scale 3/16 of an inch = 1 foot

B.F.Isherwood, C.E. del.

F. Mansell Sc.

Published by John Weale, 59, High Holborn, November, 1842.

Joinery

Scale ½ inch 1 foot

Fig. 2

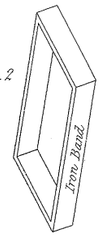


Fig. 8

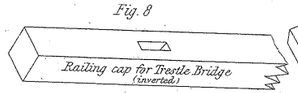
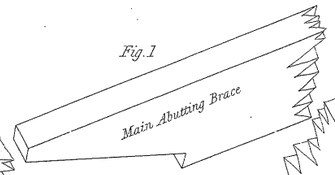
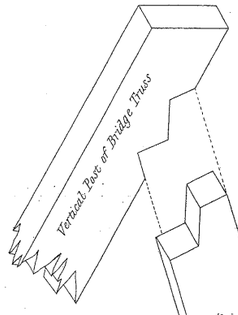
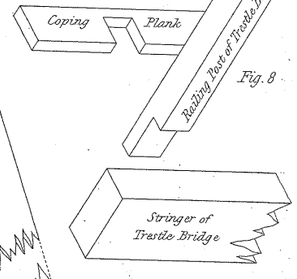


Fig. 1







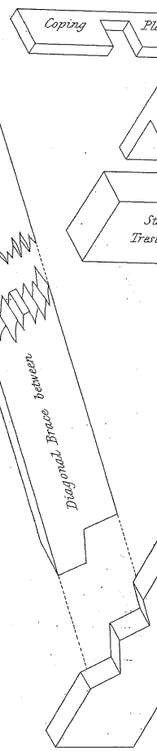
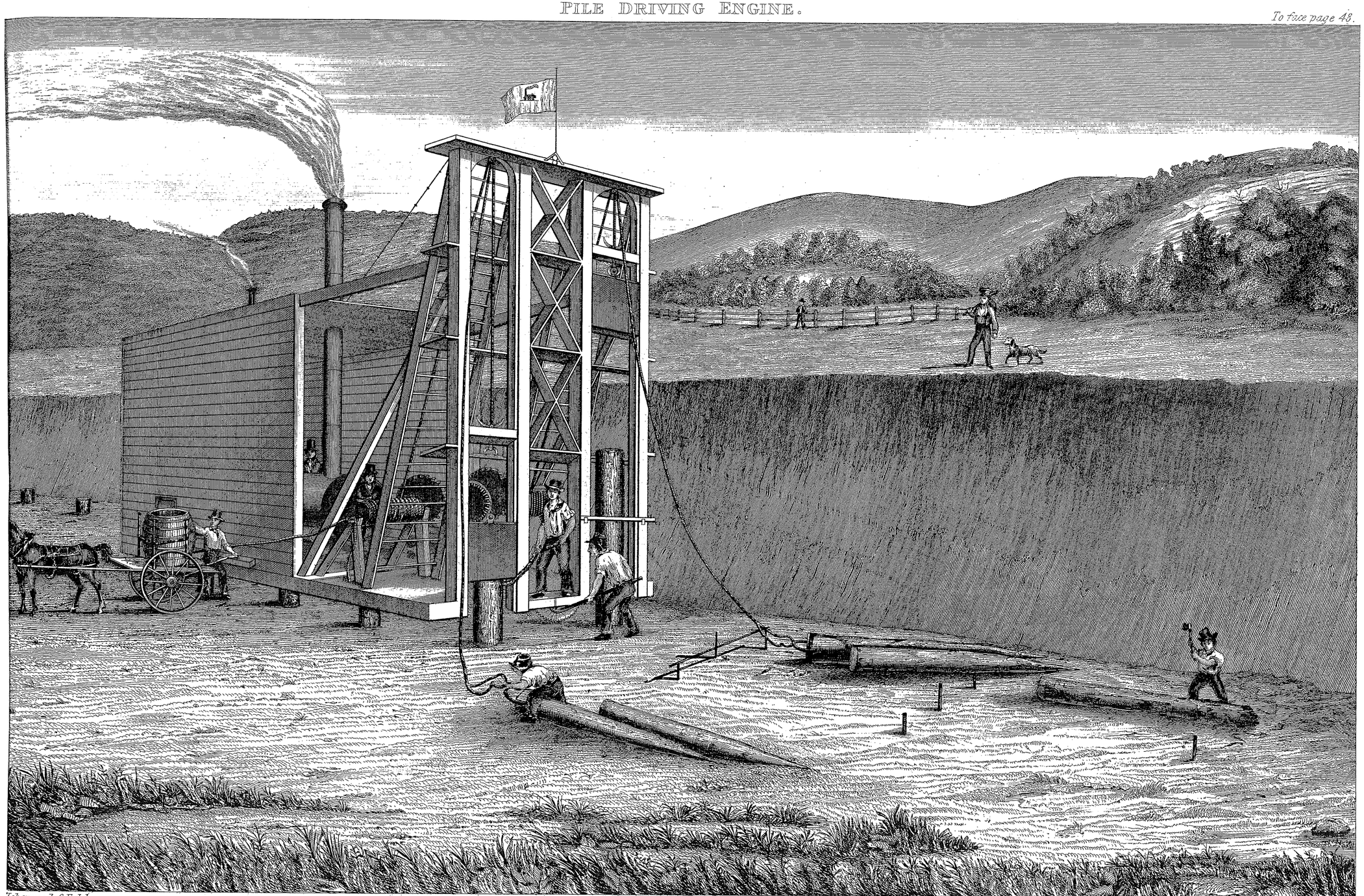


Fig. 3

PILE DRIVING ENGINE.

To face page 48.



Isherwood. C.E. del.

F. Mansell sc.

Published by John Weale. 59. High Holborn. November. 1842.

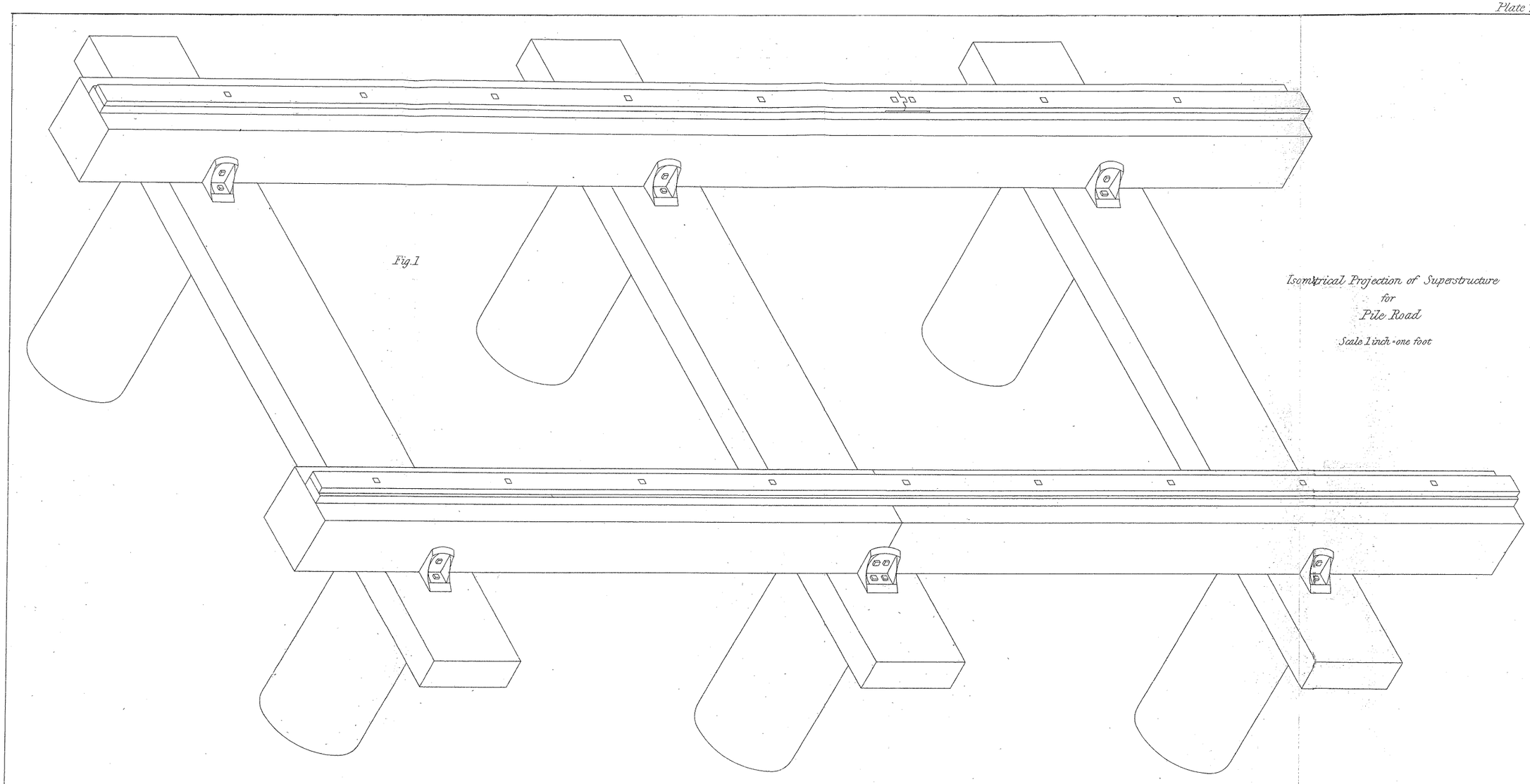


Fig. 1

Isometrical Projection of Superstructure
for
Pile Road

Scale 1 inch = one foot

B. El Isherwood, C.E. del. F. Mansell sc.

Published by John Weale, 59, High Holborn, November, 1842.

Details for Superstructure

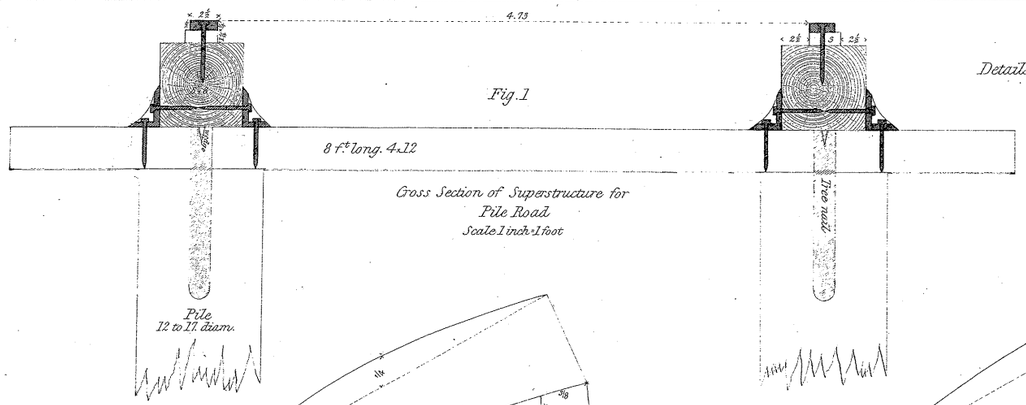


Fig. 1

Gross Section of Superstructure for Pile Road
Scale 1 inch=1 foot

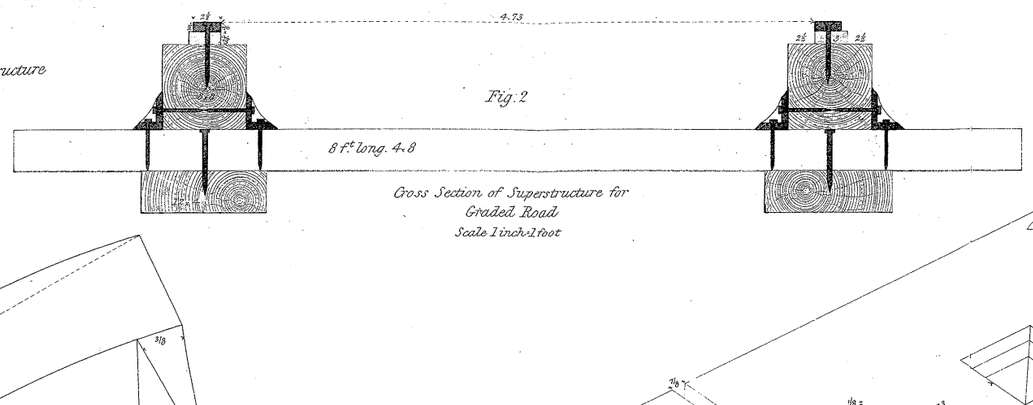


Fig. 2

Gross Section of Superstructure for Graded Road
Scale 1 inch=1 foot

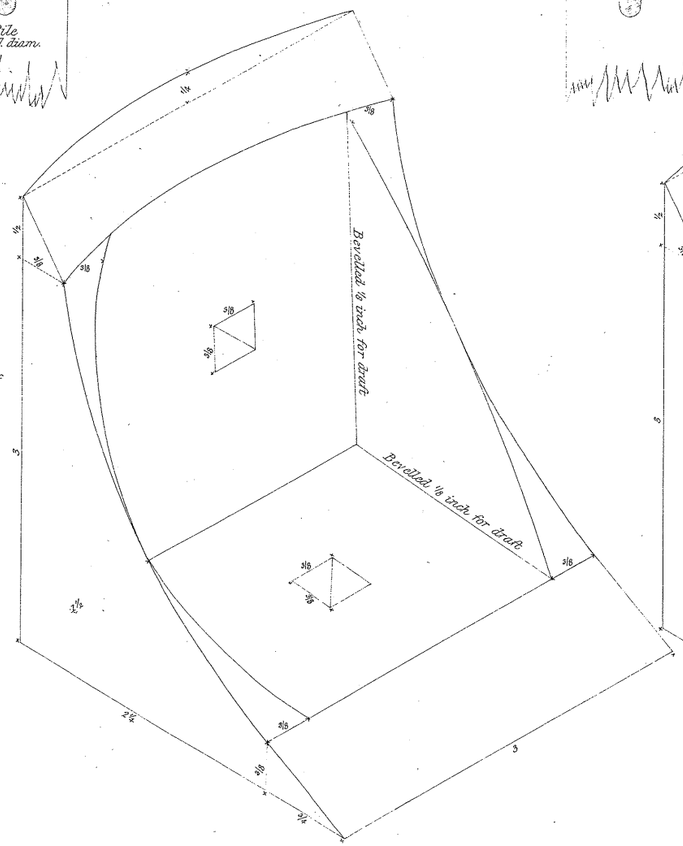


Fig. 3
Isometrical Projection of Single Knee
natural size

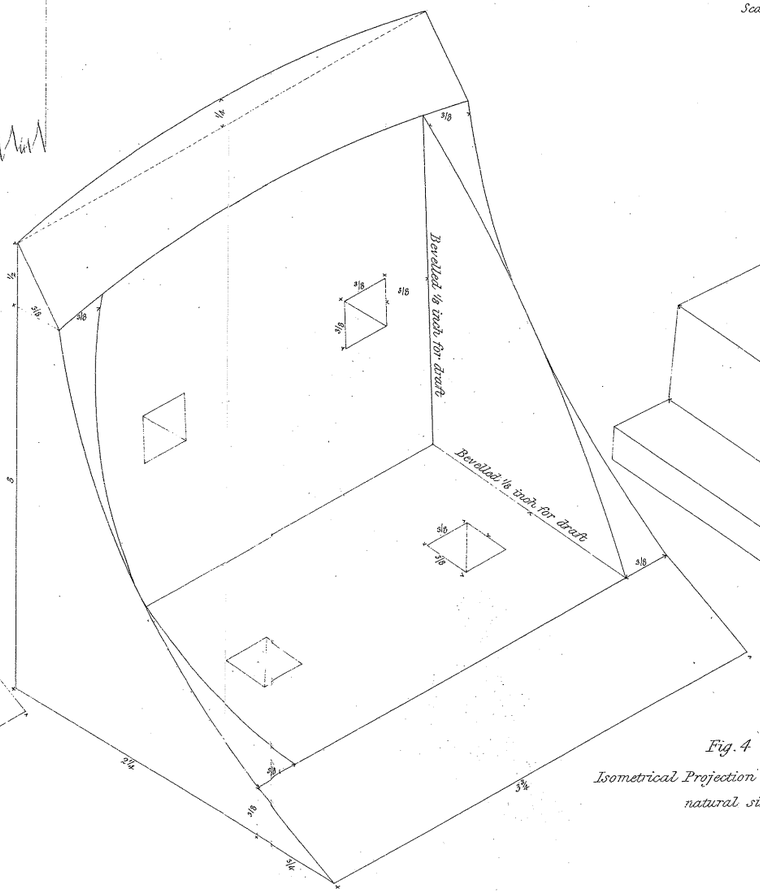


Fig. 4
Isometrical Projection of Double Knee
natural size

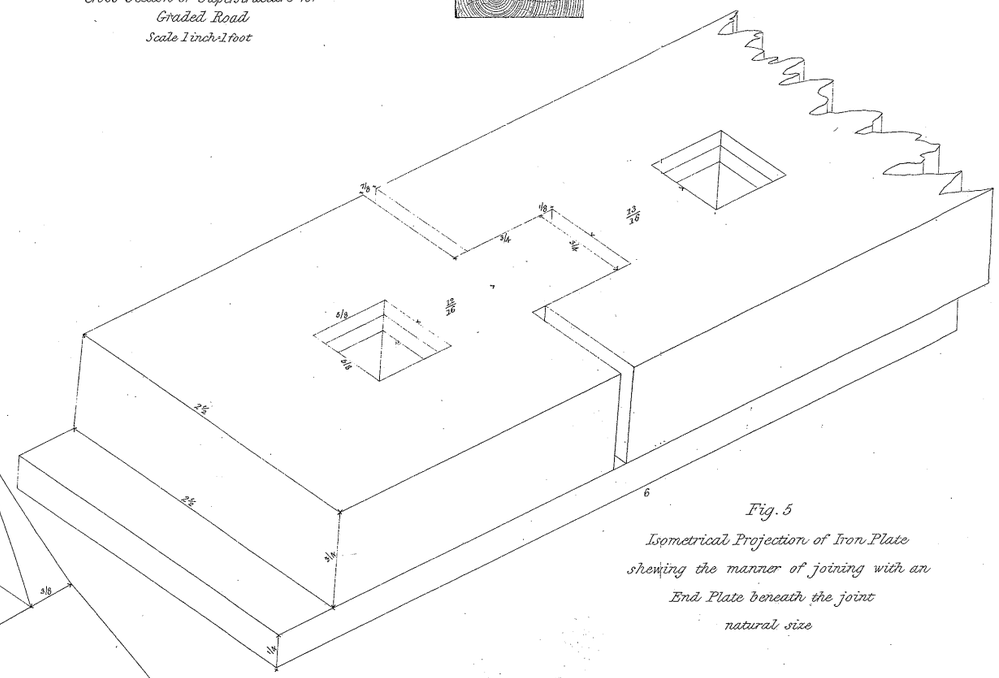


Fig. 5
Isometrical Projection of Iron Plate shewing the manner of joining with an End Plate beneath the joint
natural size

B.F. Isherwood. C.E. del.
Published by John Weale. 59. High Holborn. November 1. 1842.
F. Mansell sc.

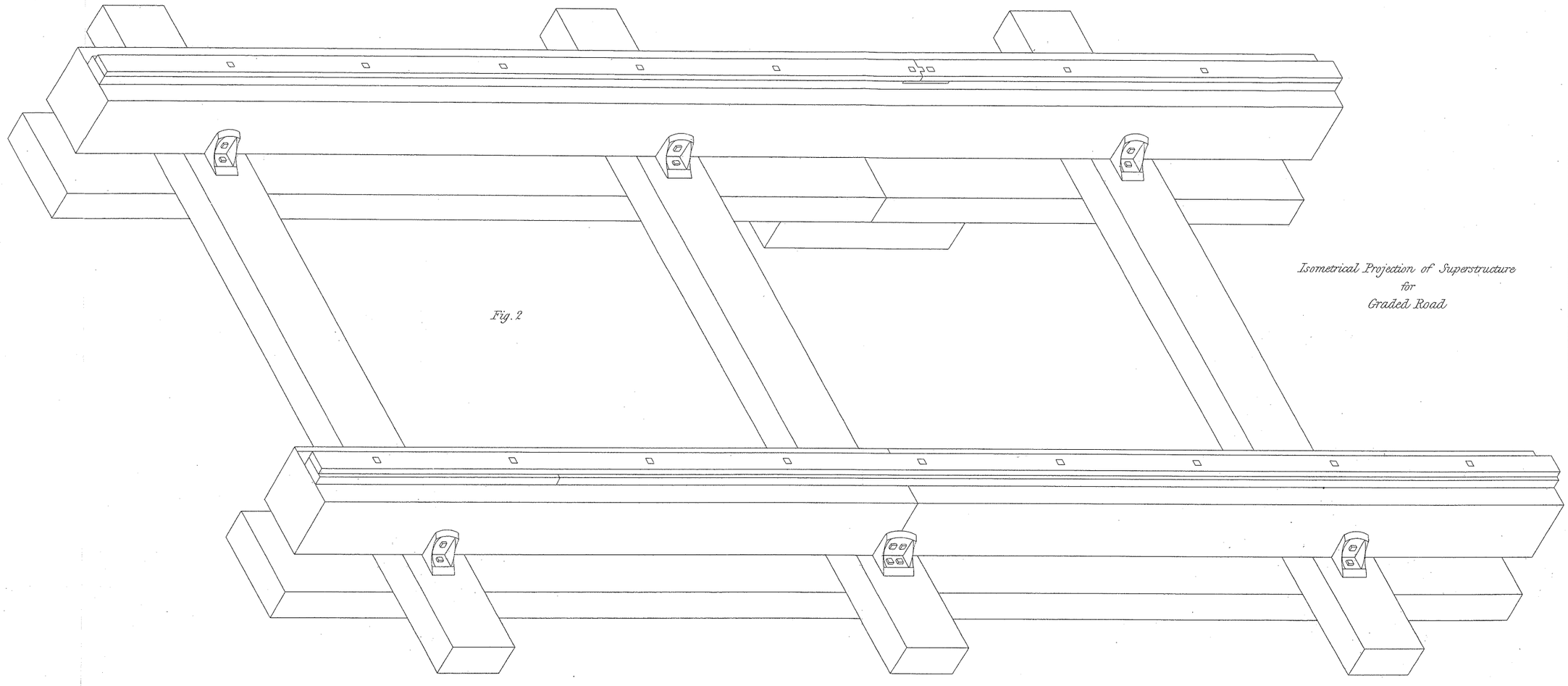


Fig. 2

Isometrical Projection of Superstructure
for
Graded Road

B.F.Isherwood, C.E. del. F. Mansell sc.

Published by John Weale, 59, High Holborn, November, 1842.

Grossing Plates

Fig. 1

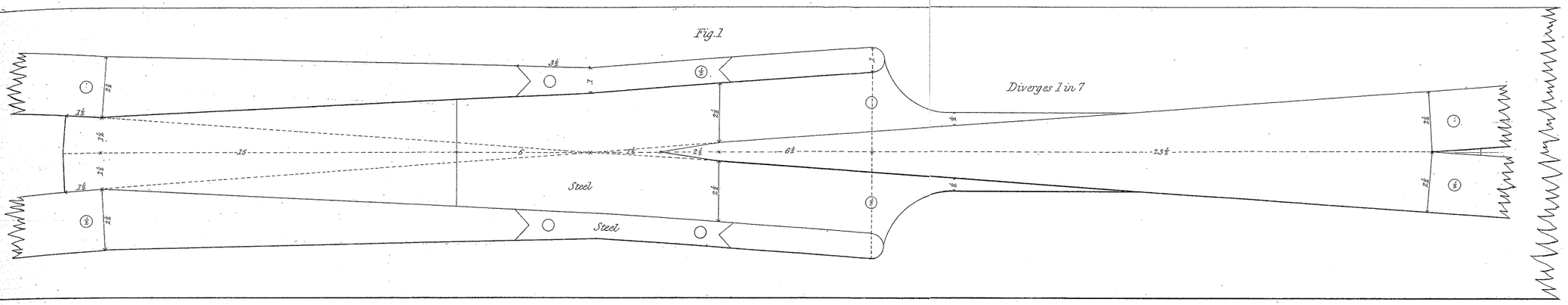
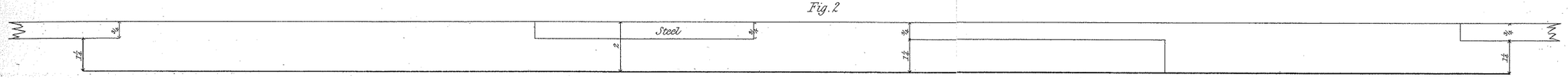


Fig. 2



Scale 3 inches = 1 foot

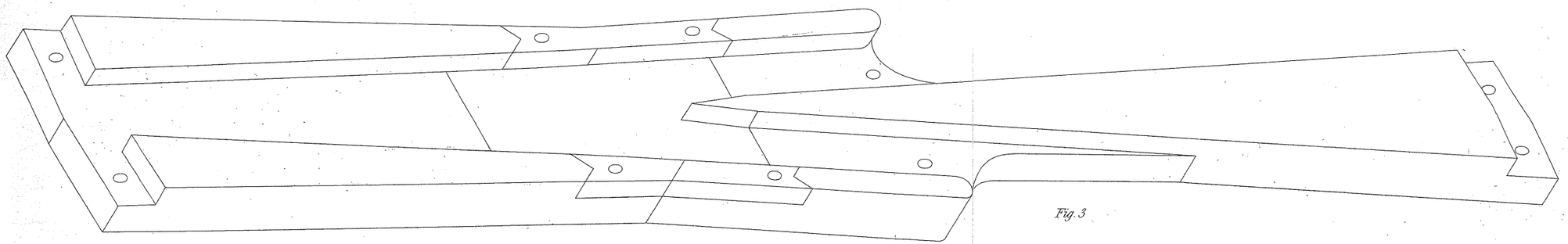


Fig. 3

B.F. Isherwood. C.E. del.

F. Mansell sc.

Published by John Weale, 59, High Holborn, November 1842.

Crossing Plates

Fig. 4

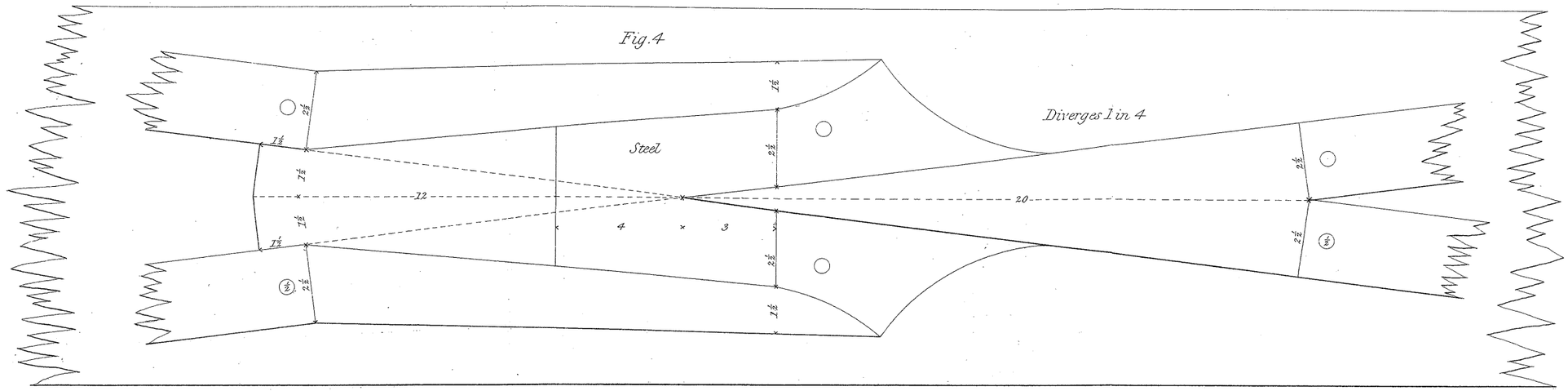
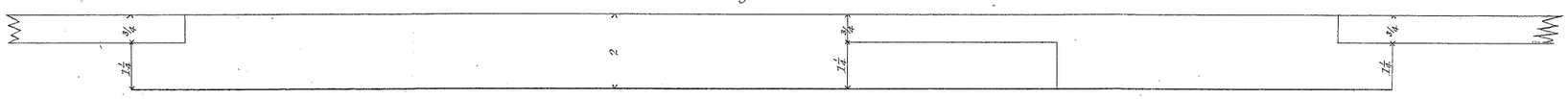


Fig. 5



Scale 3 inches = 1 foot

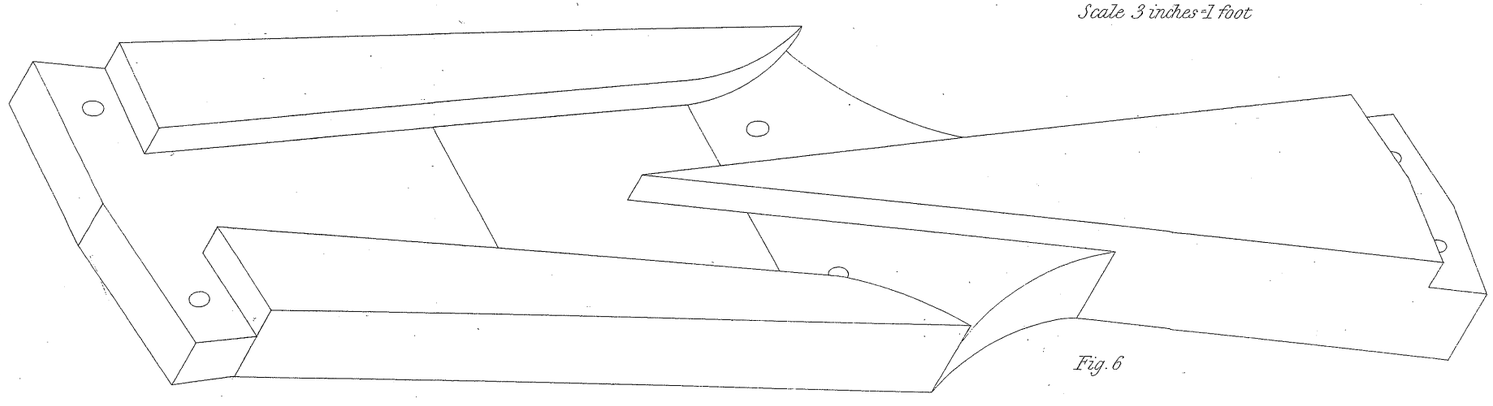


Fig. 6

B.F.Isherwood, C.E. del.

F. Mansell sc.

Published by John Weale, 59, High Holborn, November, 1842.

Fig. 1

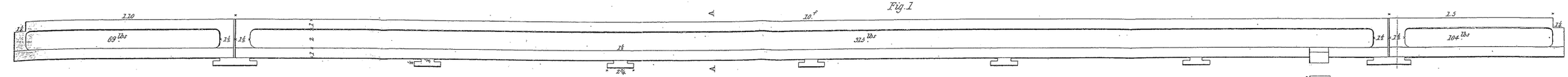


Fig. 2

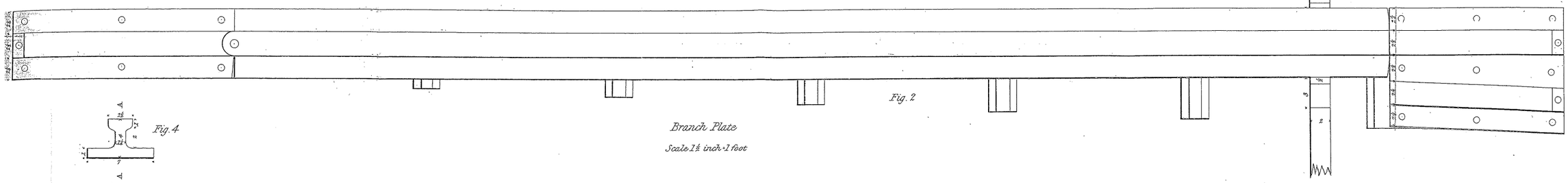
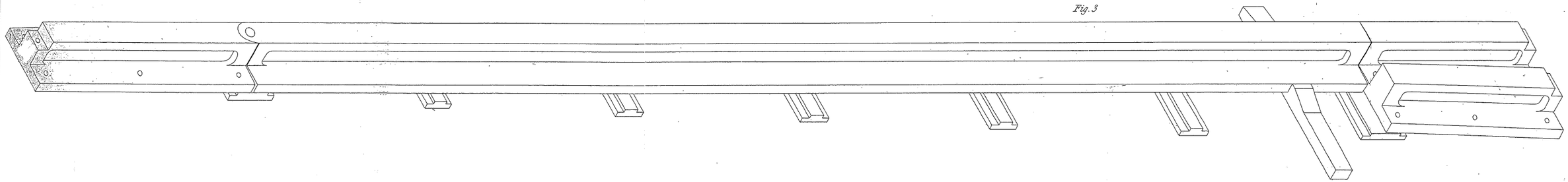


Fig. 4

Branch Plate

Scale 1½ inch = 1 foot

Fig. 3



H.F. Isherwood. C.E. del.

Published by John Weale. 59. High Holborn. November, 1842.

F. Mansell sc.

Fig. 5

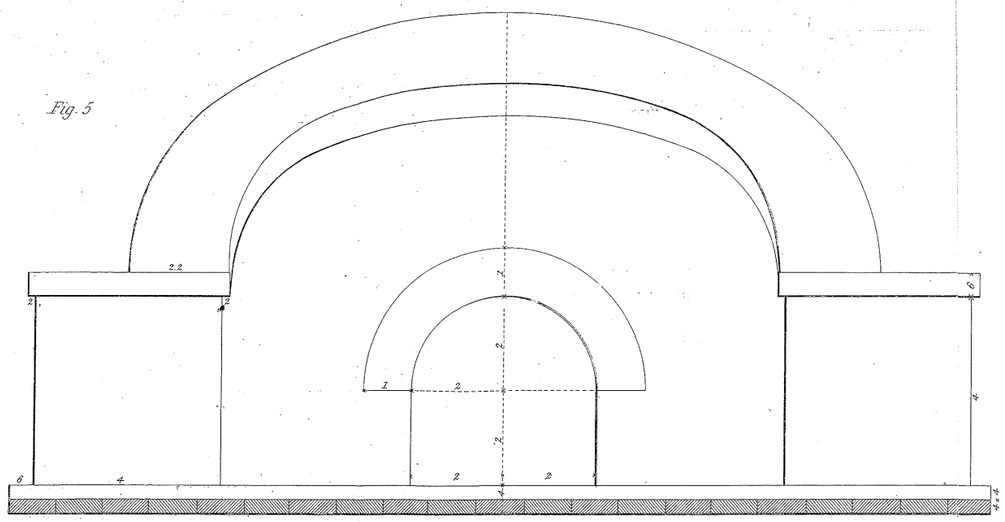
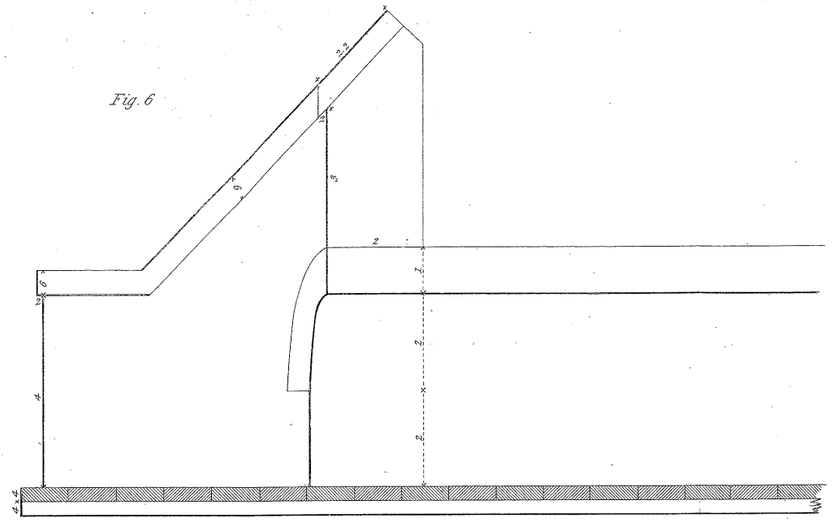


Fig. 6



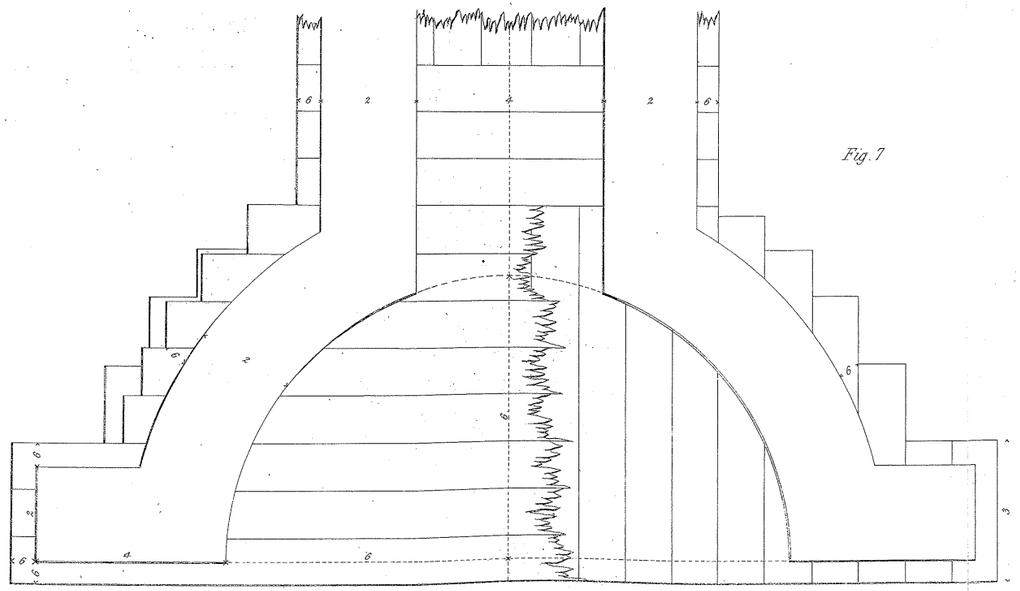
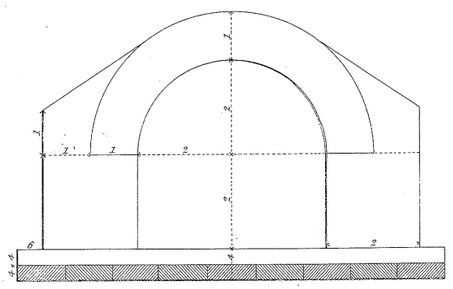


Fig. 7

Culvert

Scale $\frac{3}{8}$ inch-1 foot

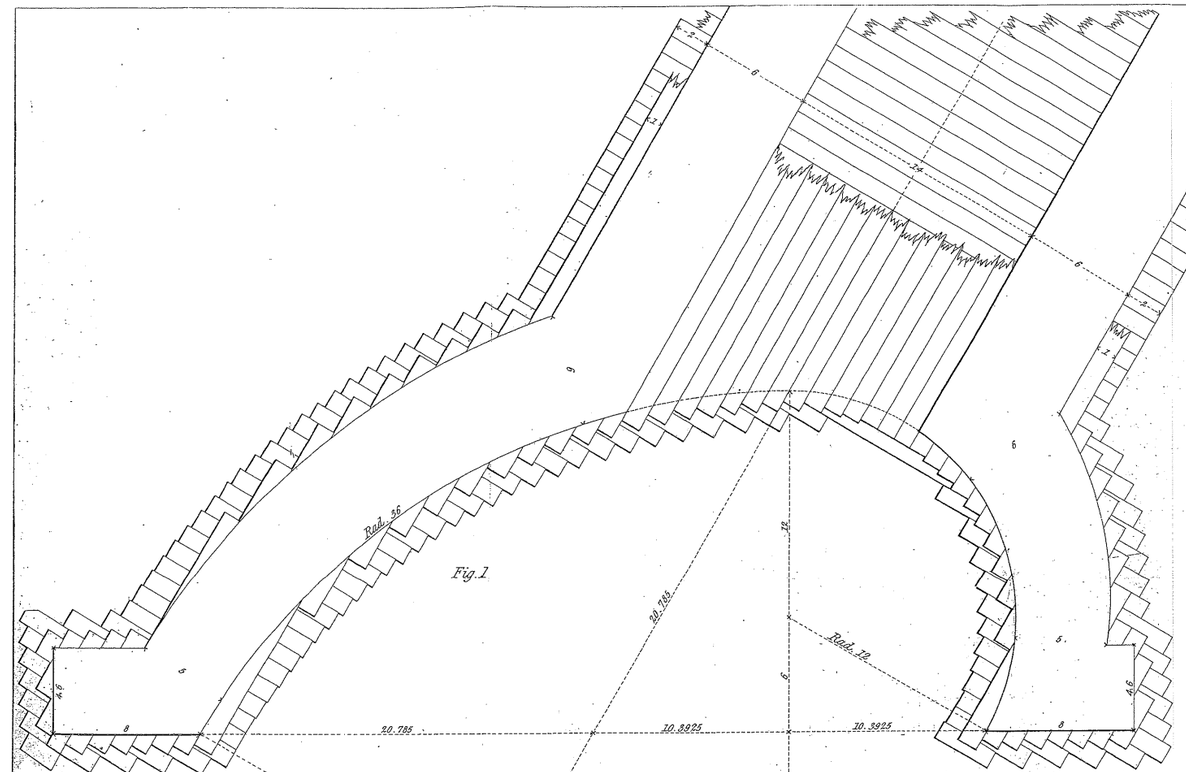
Fig. 8

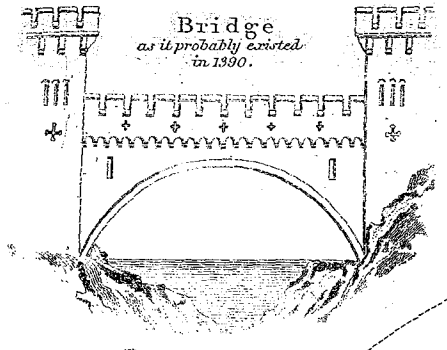


Published by John Weale, 59, High Holborn, November, 1842.

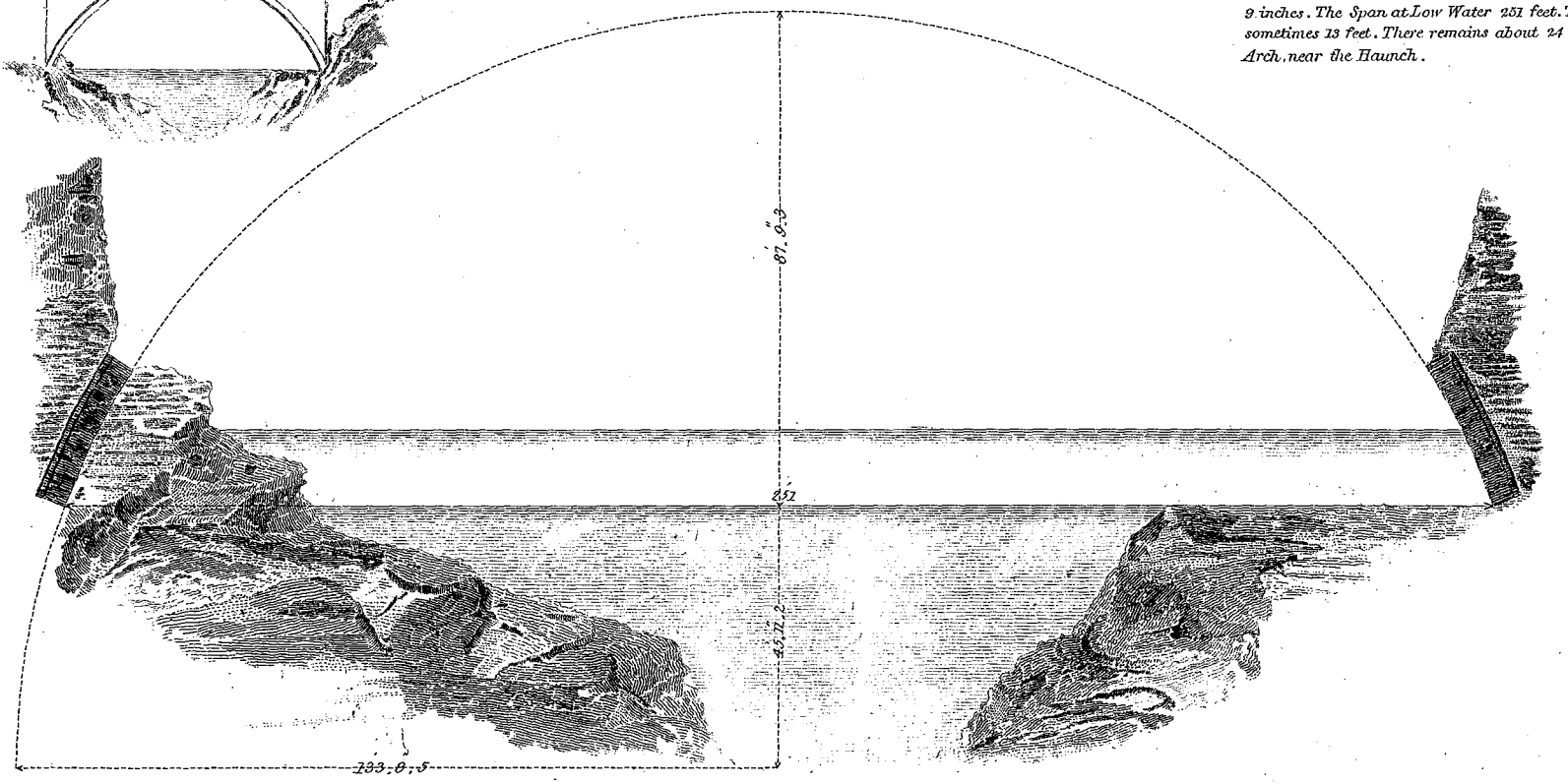
F. Mansell sc.

Fig. 1

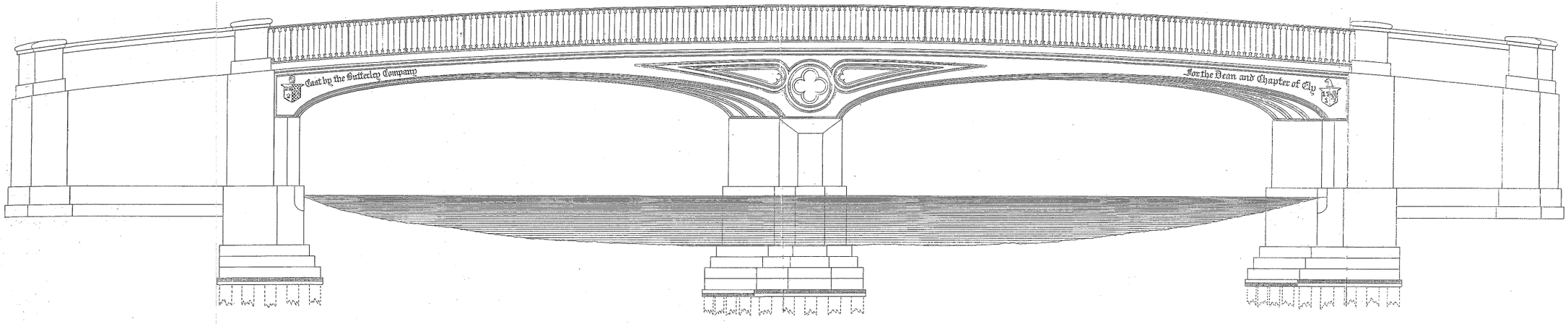

Rad. 56
Rad. 72
20.785
10.3925
10.3925
10.3925
10.3925
90°
18
18
18
18
6
6
6



The Bridge of Trezzo was built by order of Barnabó Visconti, Duke of Milan. It was afterwards destroyed by Carmagnola. It consisted of a single Arch of Granite, very well constructed of Stones in two Courses; the innermost, 3½ feet thick (in the direction of Radius), the outermost, 9 inches. The Span at Low Water 251 feet. The River rises sometimes 13 feet. There remains about 24 feet of the Arch, near the Haunch.

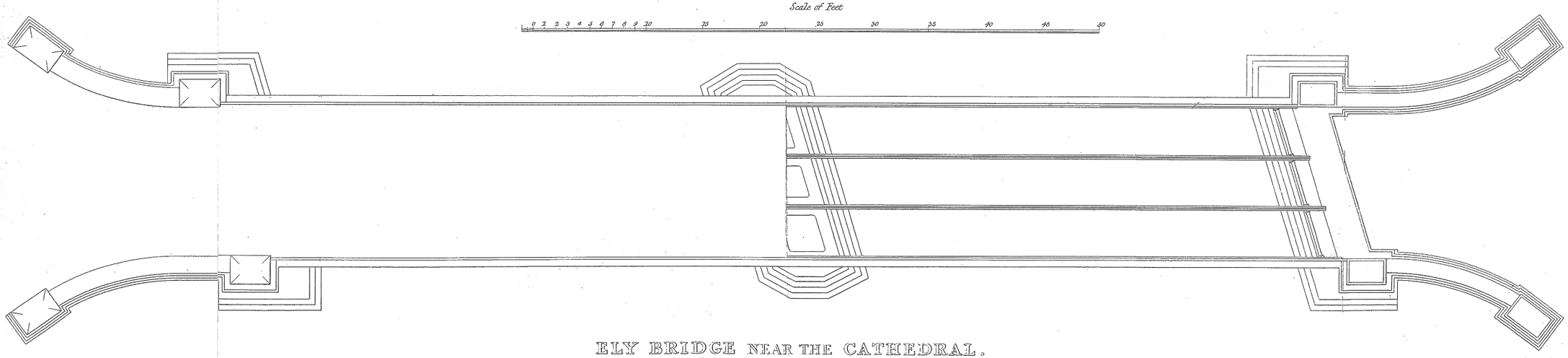


REMAINS OF THE BRIDGE OVER THE RIVER ADDA, AT TREZZO, MILANESE.



Scale of Feet

0 1 2 3 4 5 6 7 8 9 10 15 20 25 30 35 40 45 50



ELY BRIDGE NEAR THE CATHEDRAL.

Erected by the Butterley Company for the Dean and Chapter of Ely.

JOSEPH GLYNN F.R.S. M.I.C.E. &c ENGINEER.

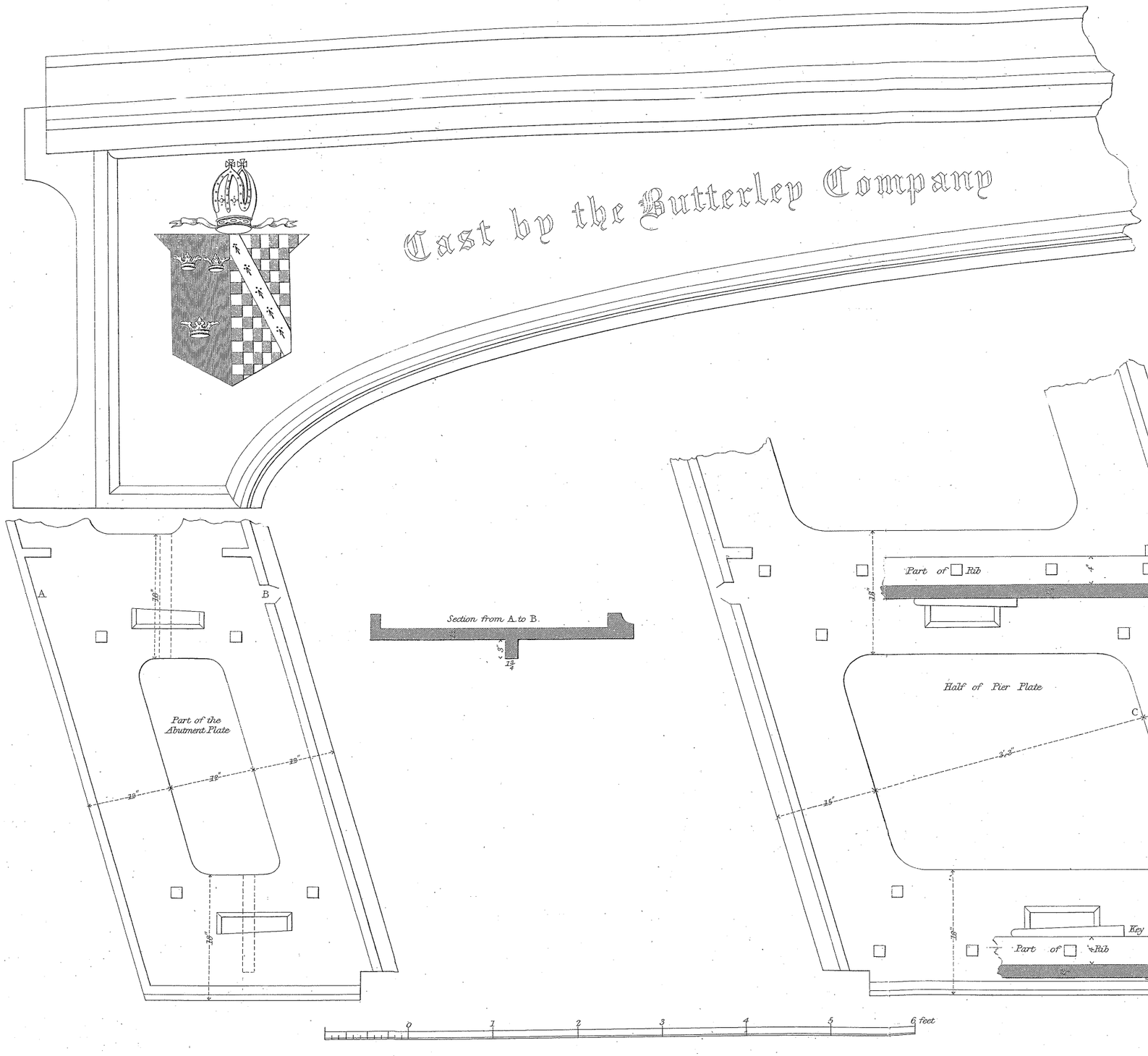
Drawn by W. Stanley.

John Weale, Architectural Library, 59 High Holborn.

Engraved by B.R. Davis.

ELY BRIDGE.

ABUTMENT AND PIER PLATES.



Jos. Glynn F.R.S. Del.

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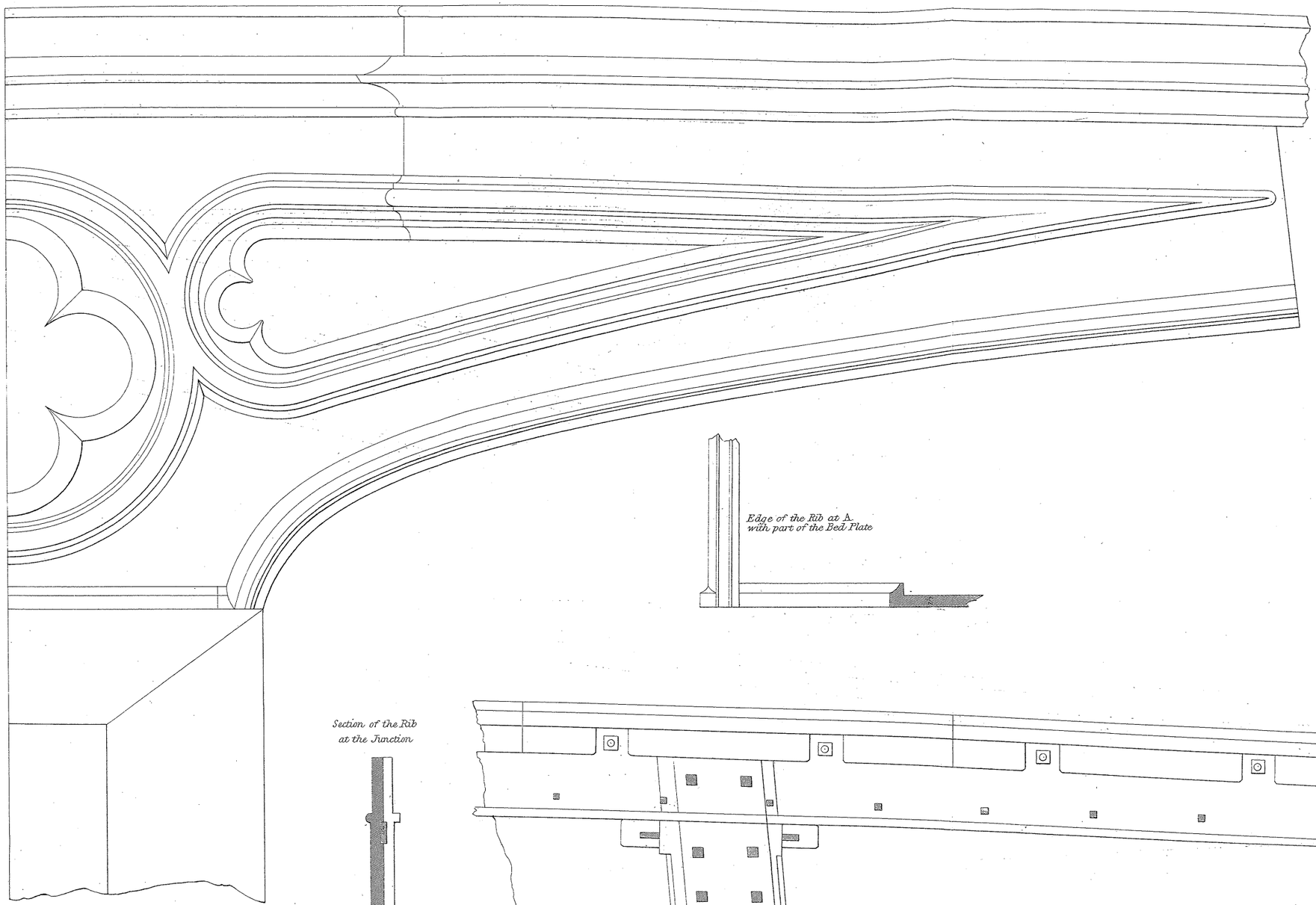
F. Mansell Sc

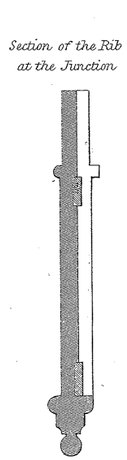
ELY BRIDGE

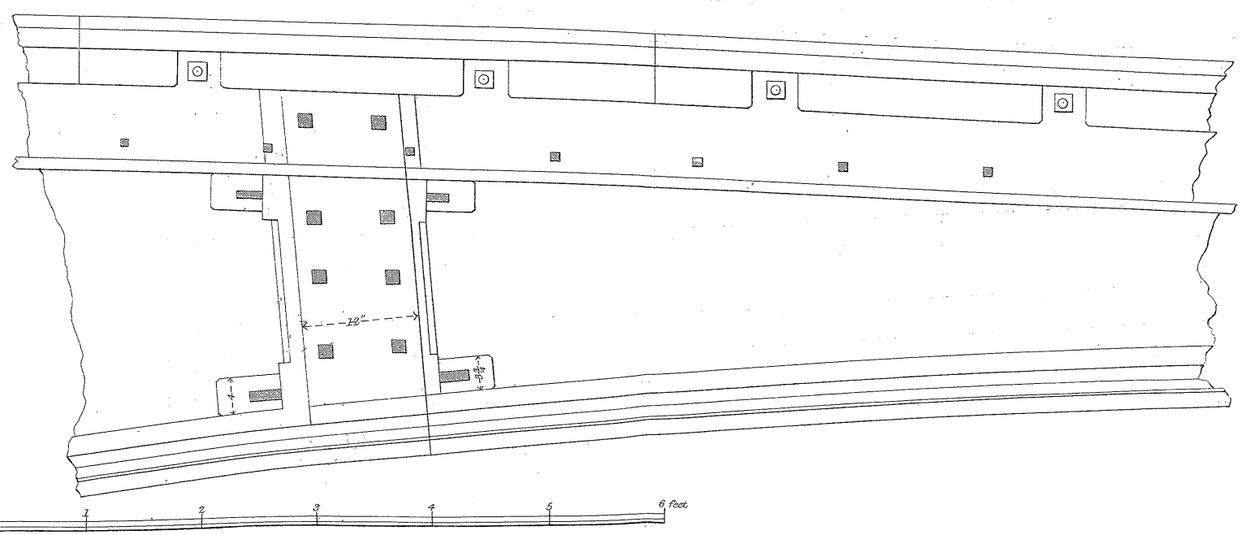
OUTSIDE RIB



Edge of the Rib at A. with part of the Bed Plate

Section of the Rib at the Junction





Jos. Glynn F.R.S. Del.

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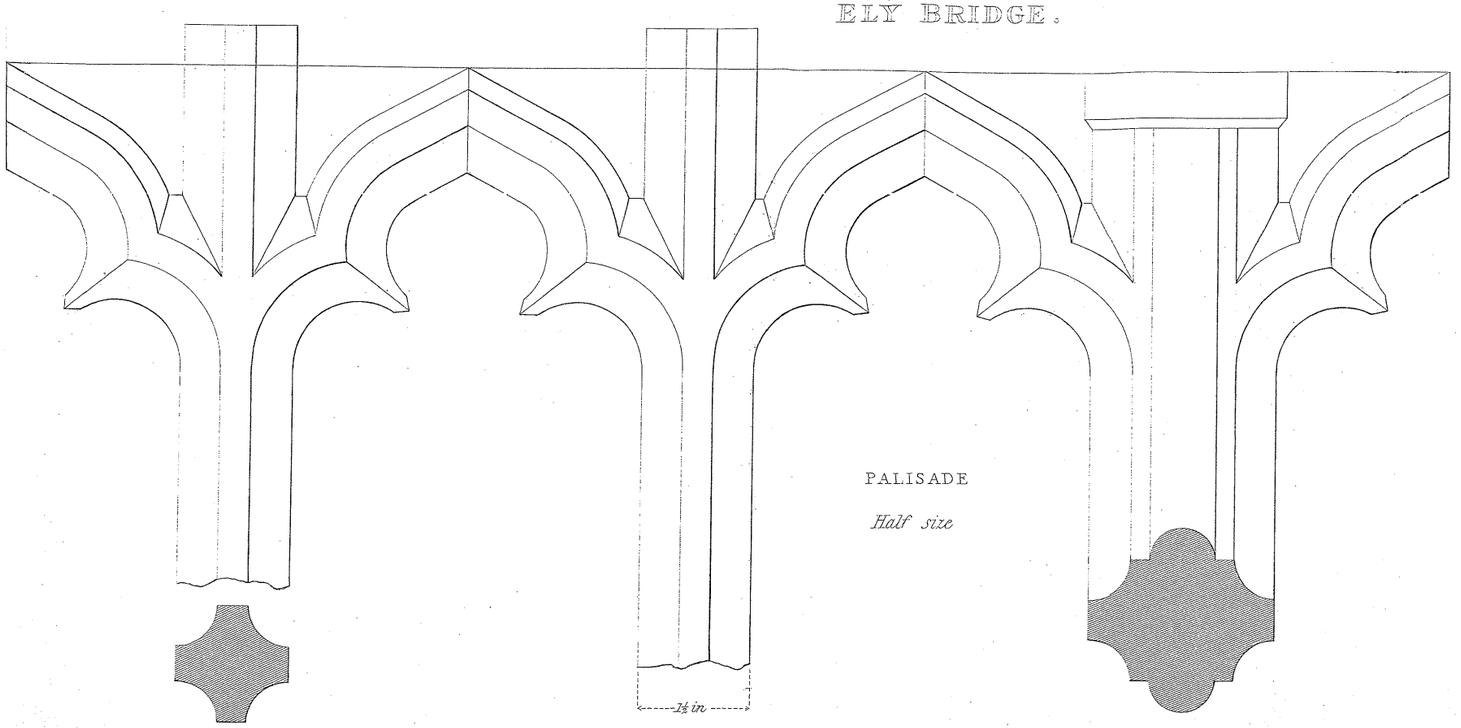
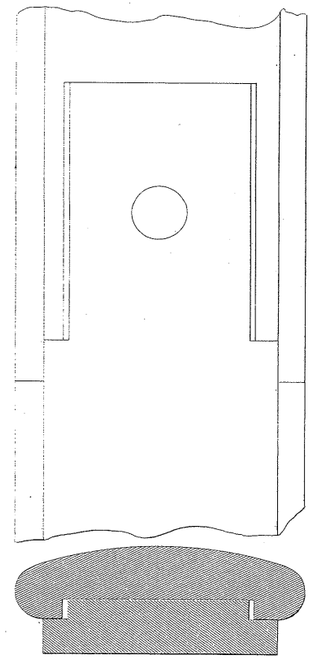
F. Mansell Sc.

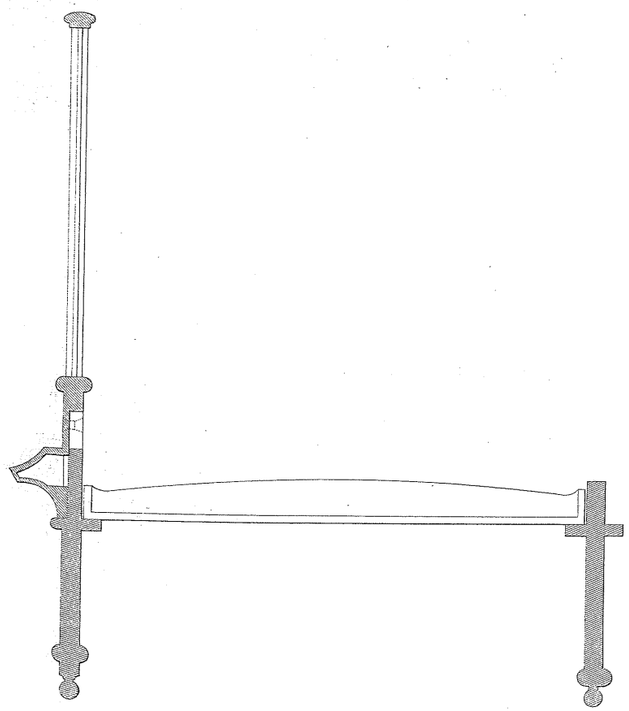
ELY BRIDGE.

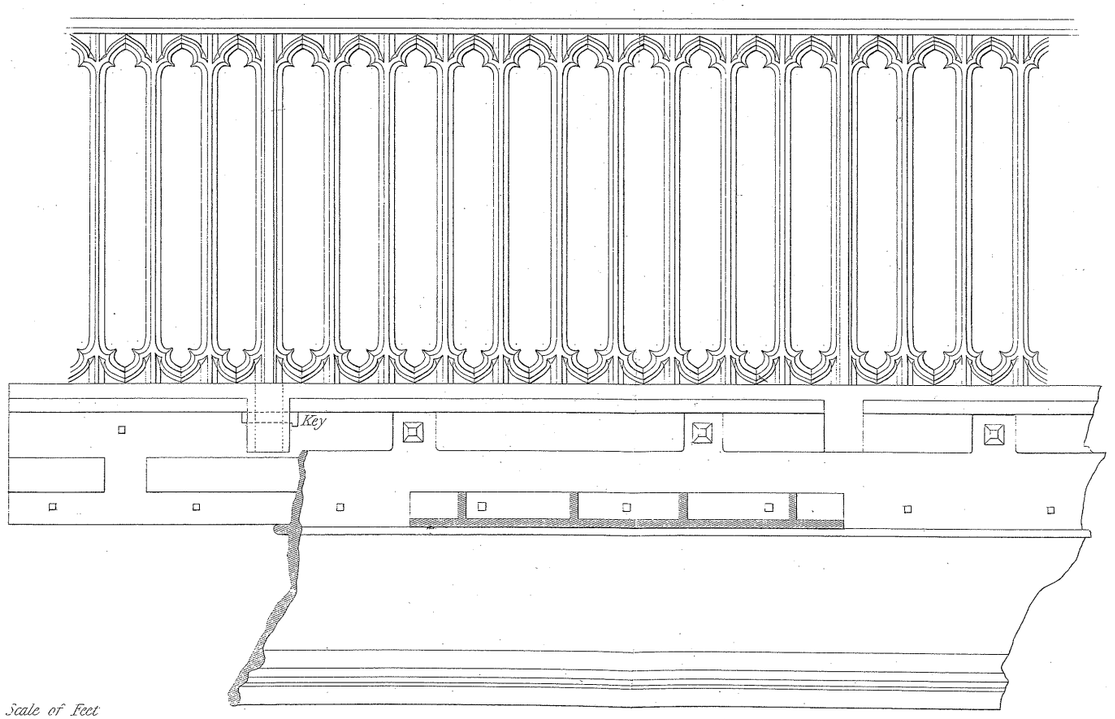


PALISADE

Half size







Scale of Feet

1 2 3 4 5 6 7 8 9 10

J. Glynn F.R.S. del.

John Weale, Architectural Library, 59, High Holborn.

J.H. Le Keux sc.

HADDLESEY BRIDGE

CORNICE

SIDE

SIDE

Lower Edge of the Rib

Bars to support the Rib

20 ft.

34 feet

20 ft.

Mode of supporting the Bolts

A

B

Light angle irons

Full Size half oval

0 1 2 3 4 5 6 7 feet

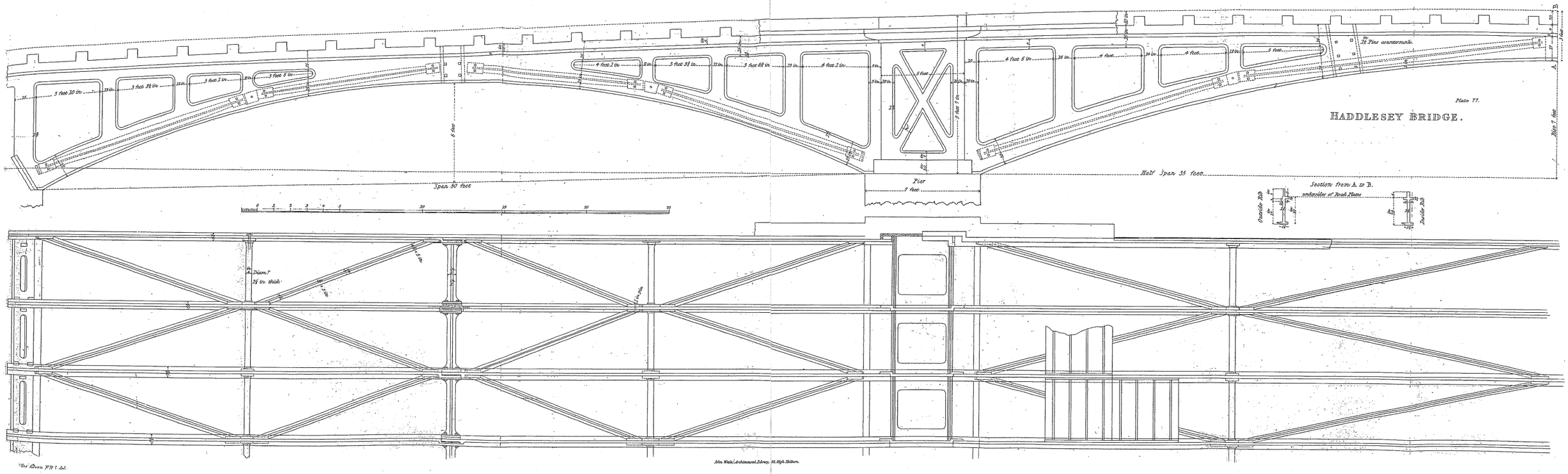
TRENS Del.

John Weale, Architectural Library 59 High Holborn.

E. Mitchell Sc.

Plate 77.

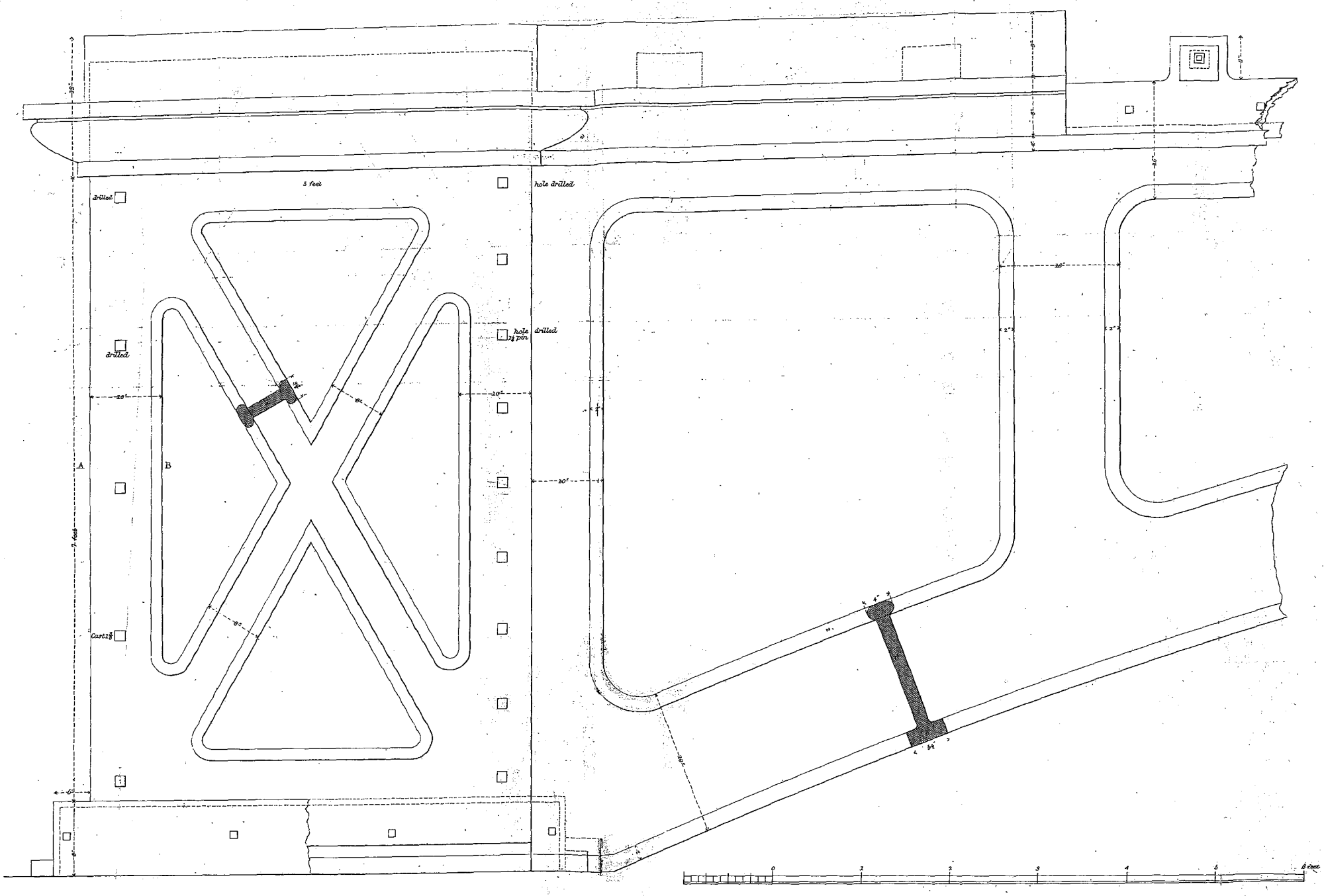
HADDLESEY BRIDGE.



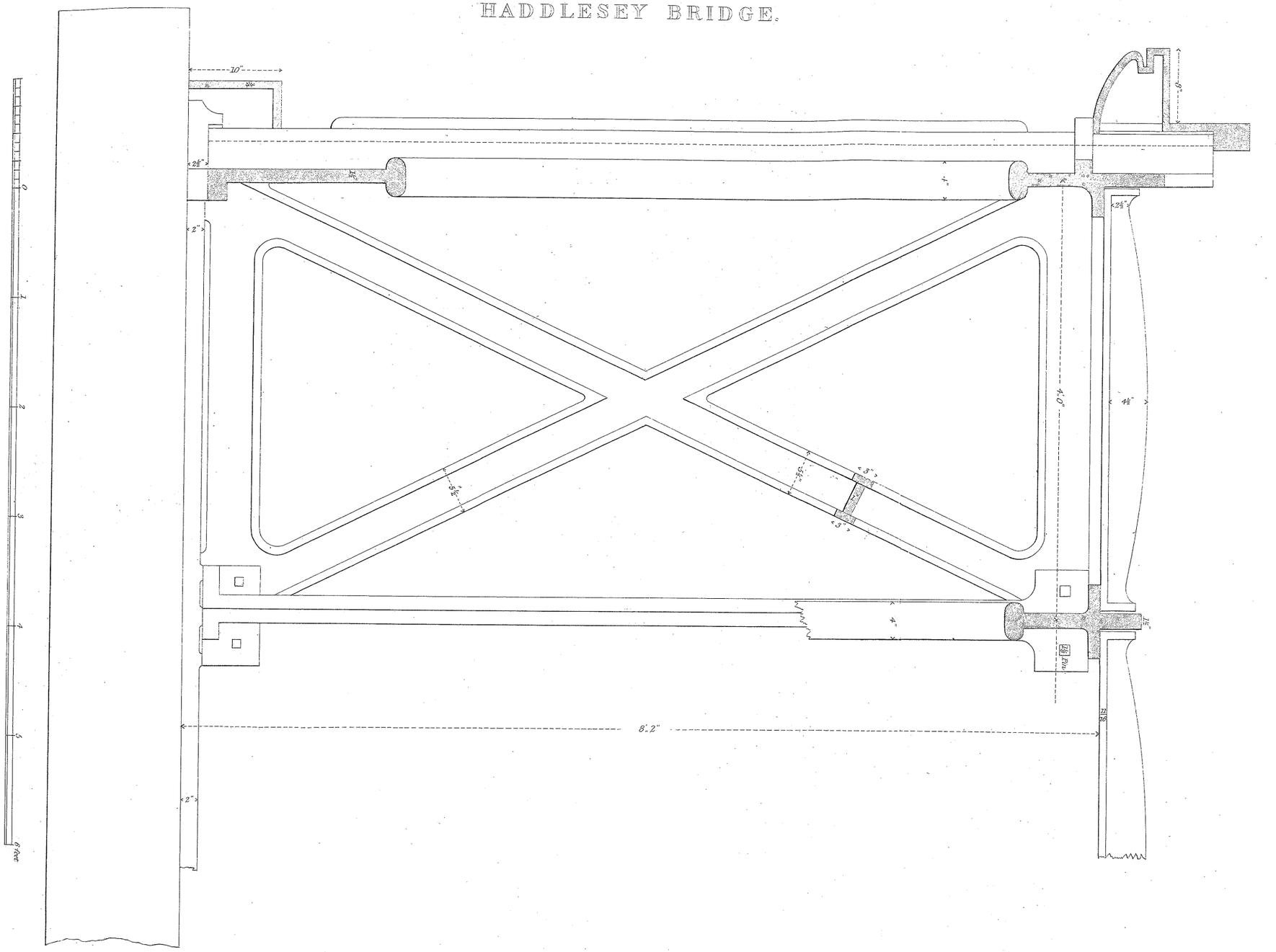
Geo. Brown, Photo. Lith.

John Weale's Architectural Library, 59, High Holborn.

HADDLESEY BRIDGE.



HADDLESEY BRIDGE.



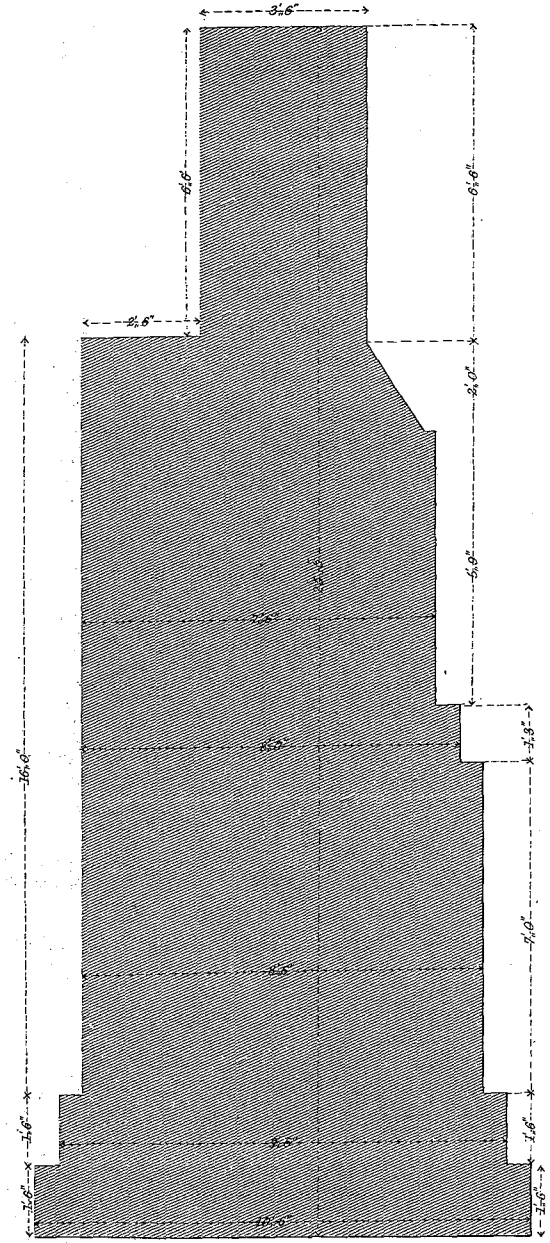
Jos. Glynn F.R.S. del.

John Weale, Architectural Library 59 High Holborn.

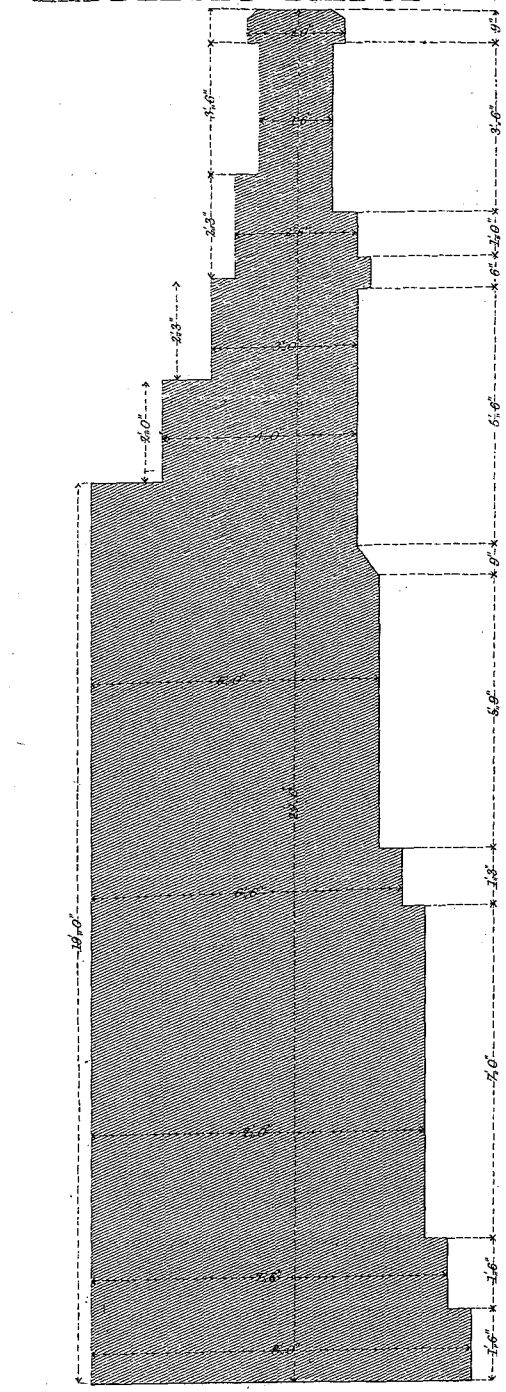
F. Mansell Sc

HADDLESEY BRIDGE

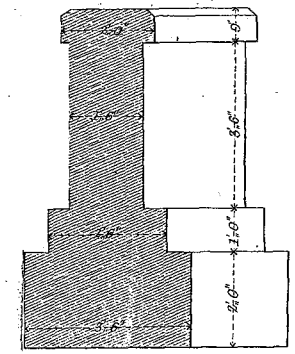
Section from A to B.



Section from C to D.

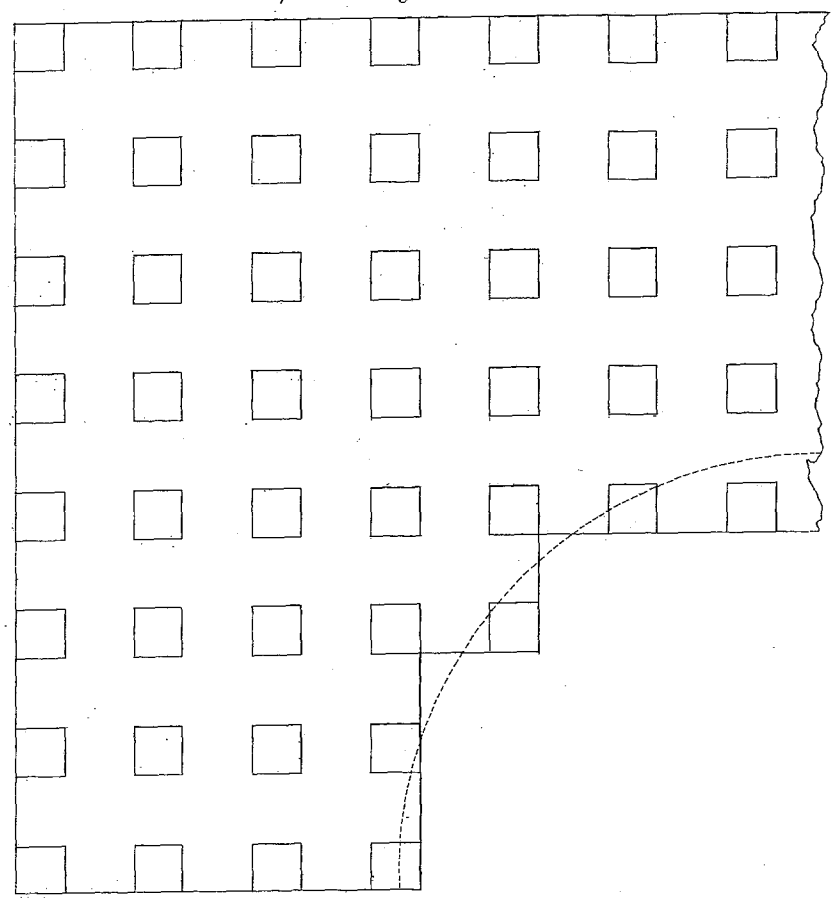


Section of Parapet

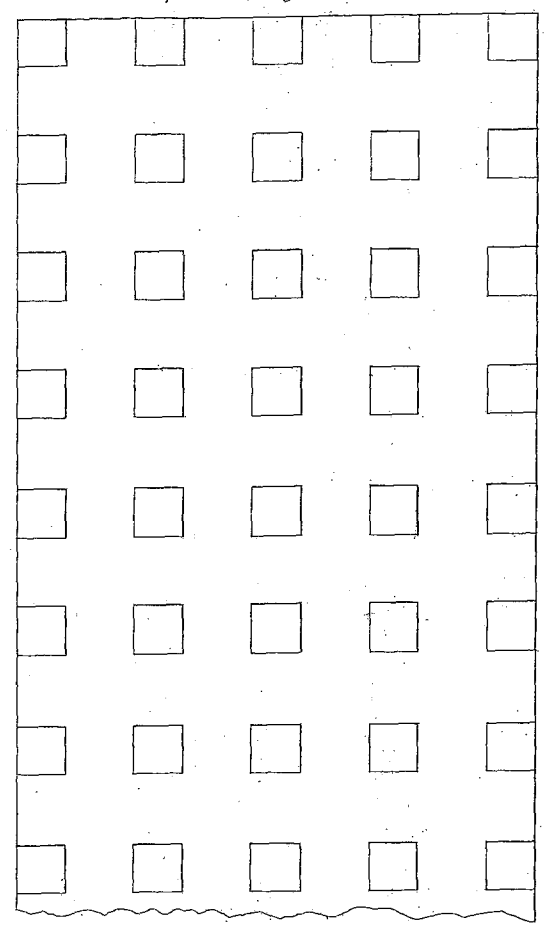


HADDLESEY BRIDGE

Half plan of Piling for the Abutments



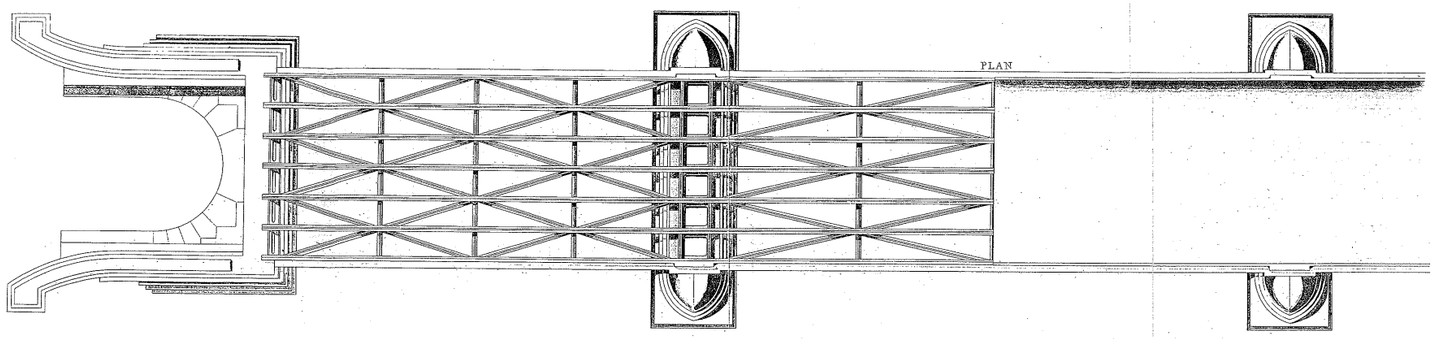
Half plan of Piling for the Piers

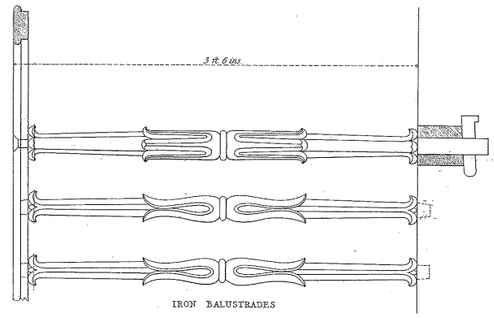


Jos. Glynn F.R.S. Del.

John Weale, Architectural Library 59 High Holborn.

F. Mansell, Sc.





IRON BALUSTRADES

10 0 10 20 30 40 50 60 70 80 90 Feet.

0 1 2 3 Feet

HADDLESEY BRIDGE.

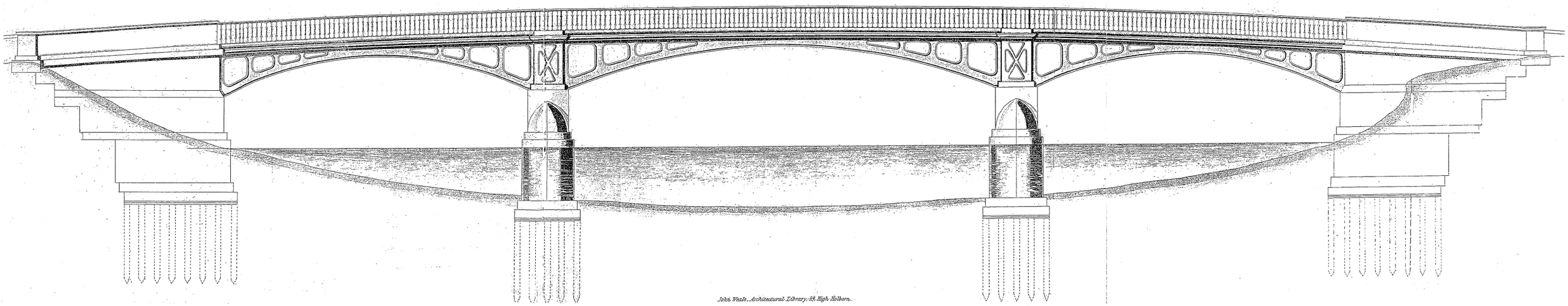
Centre Arch 70 Feet Span.
Side Arches each 50 Feet.

Carriage Way 24 Feet wide.
Centre Arch 18 Feet above low water.
& 26 Feet above bed of River.

John Weale, Architectural Library, 59, High Holborn.

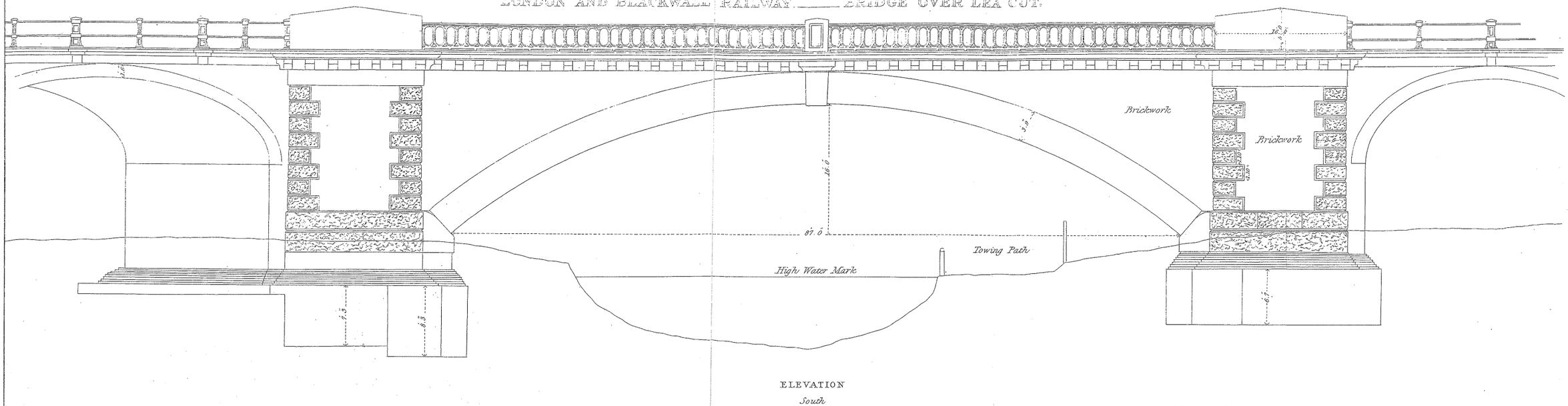
THE CAST IRON BRIDGE OVER THE RIVER AIRE, AT HADDLESEY, YORKSHIRE; ERECTED BY THE BUTTERLEY COMPANY.

JOSEPH GLYNN, ESQ.re F.R.S. M.I.C.E. &c. *Engineer*

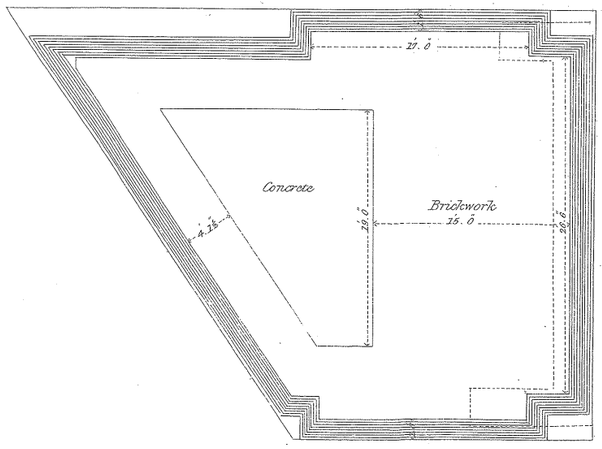


John Weale, Architectural Library, 59, High Holborn.

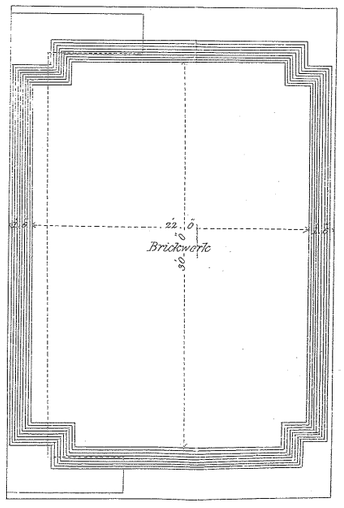
LONDON AND BLACKWALL RAILWAY. ____ BRIDGE OVER LEA CUT.



ELEVATION
South



PLAN
above Footings



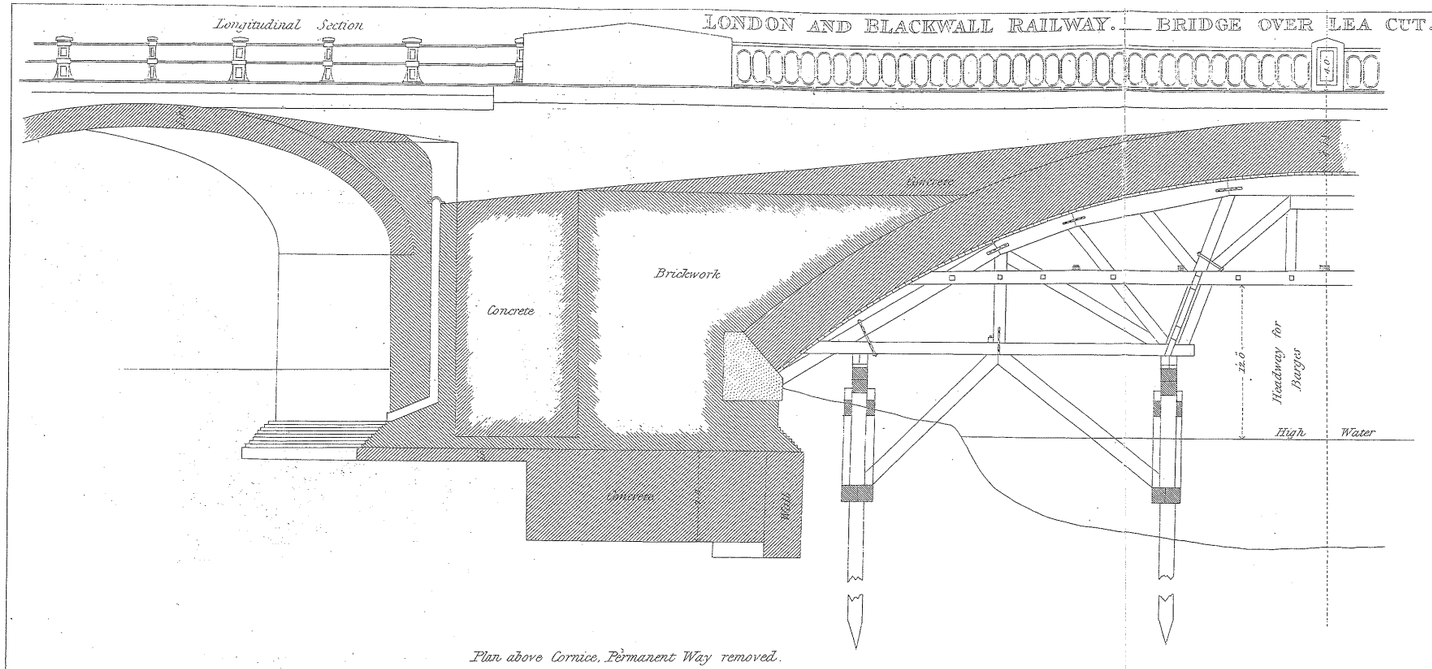
A. Fraser del.

John Weale, Architectural Library, 59, High Holborn

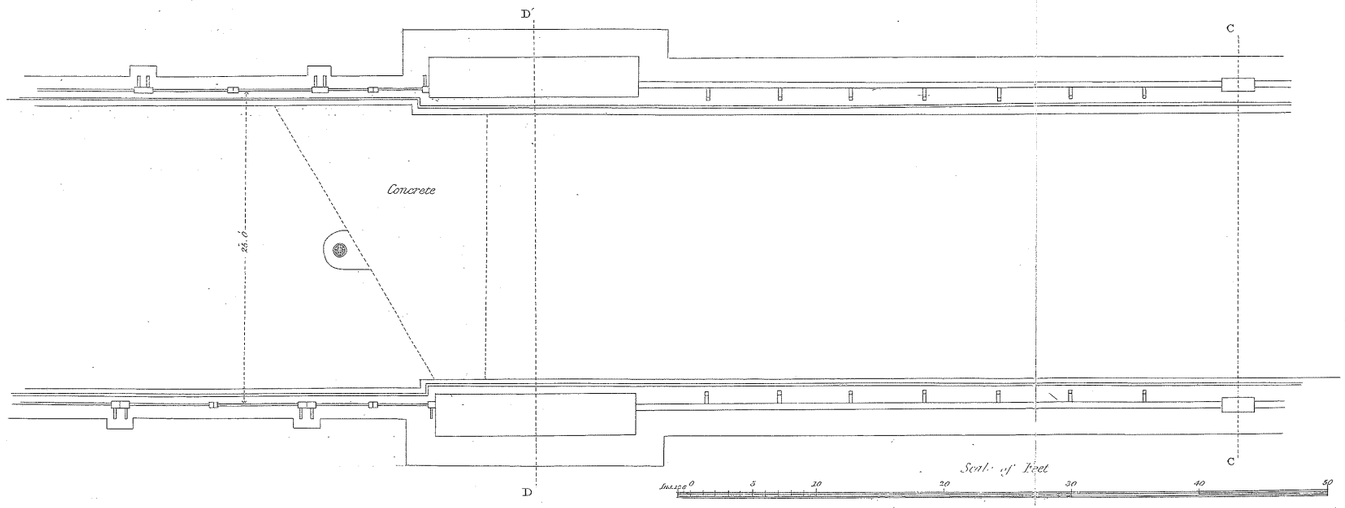
J. Hawksworth sc.

LONDON AND BLACKWALL RAILWAY.—BRIDGE OVER LEA CUT.

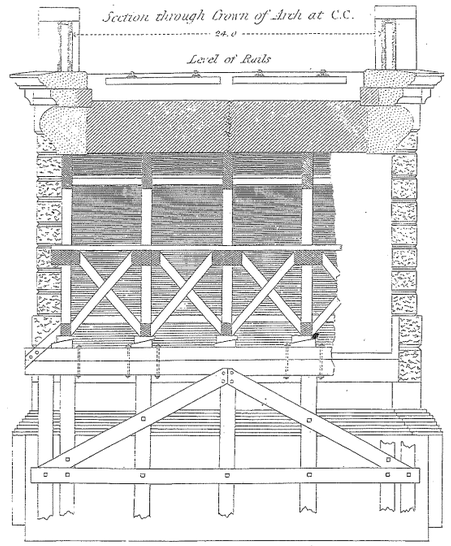
Longitudinal Section



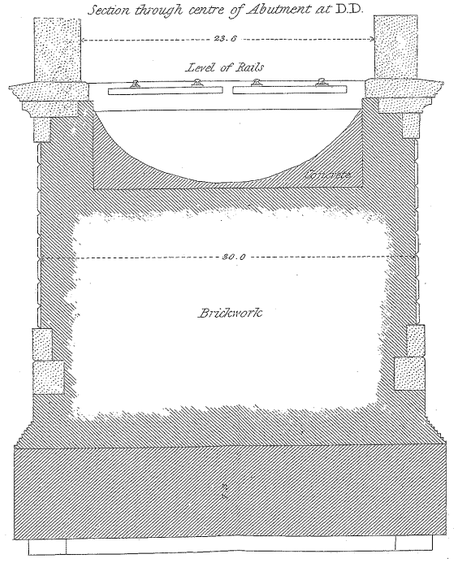
Plan above Cornice, Permanent Way removed.



Section through Crown of Arch at C.C.



Section through centre of Abutment at D.D.



A. Fraser del.

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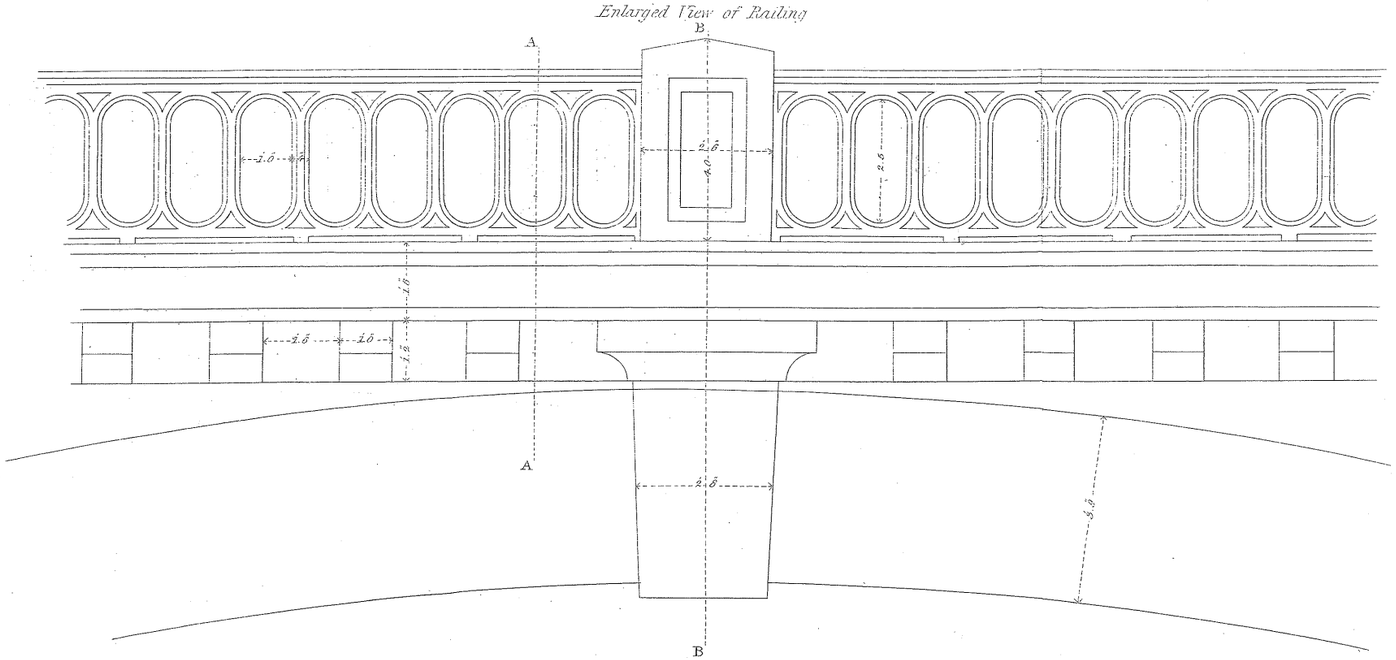
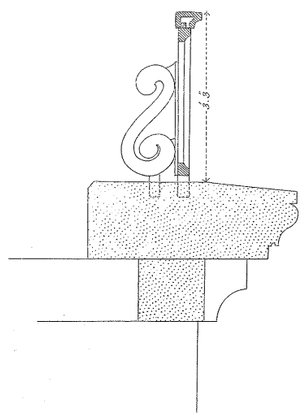
Enlarged View of Railing

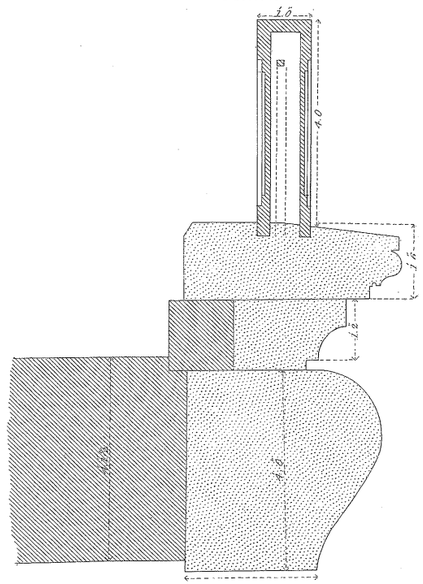


Section at A.A.

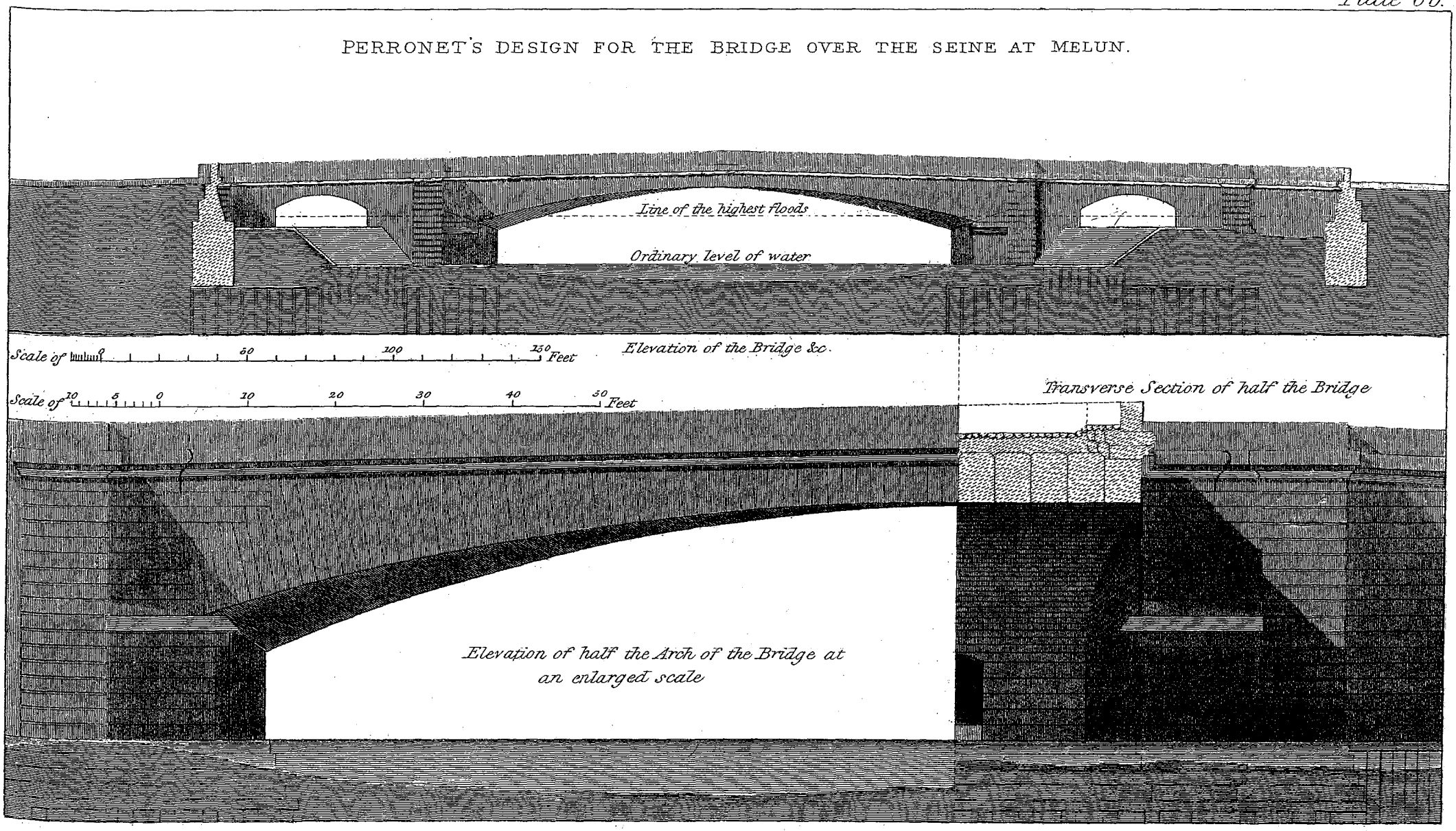


Scale of Feet

Section at B.B.



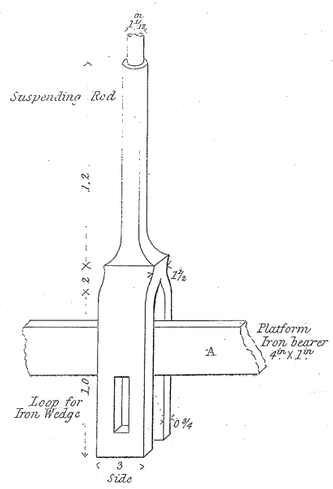
PERRONET'S DESIGN FOR THE BRIDGE OVER THE SEINE AT MELUN.

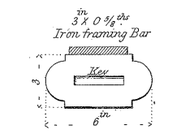

Line of the highest floods
Ordinary level of water
Scale of 0 50 100 150 Feet
Elevation of the Bridge &c.
Scale of 10 5 0 10 20 30 40 50 Feet
Transverse Section of half the Bridge
Elevation of half the Arch of the Bridge at an enlarged scale

BRIGHTON CHAIN PIER.

PORTIONS OF CONSTRUCTIVE DETAIL TAKEN AFTER ITS PARTIAL DESTRUCTION 15TH OCTR 1833.

Plate 89.

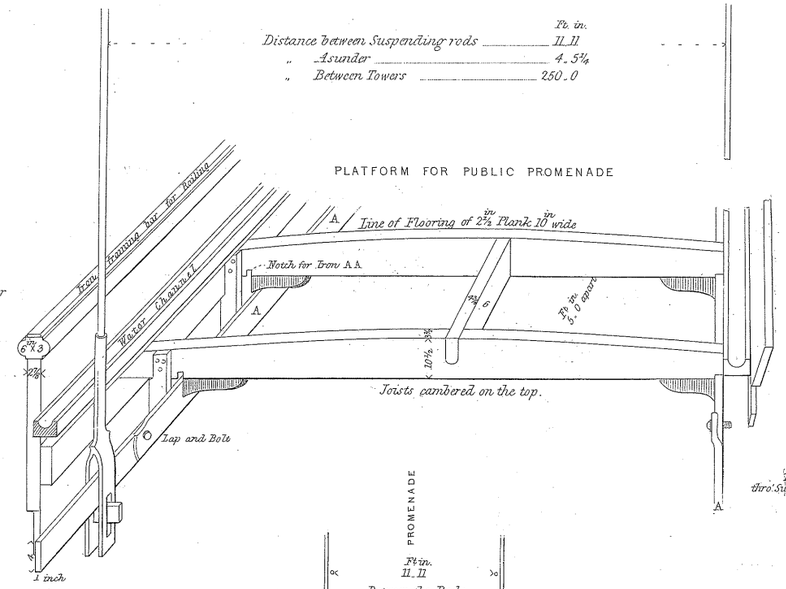


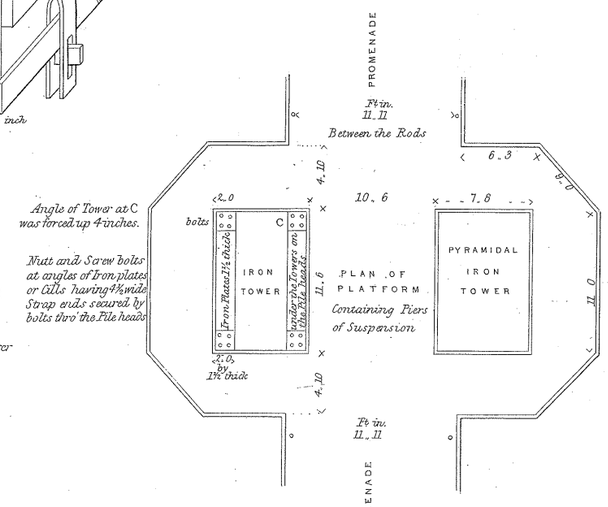


& Kerb under Iron railing B in Section.

	Ft. in.
Distance between Suspending rods	11.11
„ Asunder	4.5¼
„ Between Towers	250.0

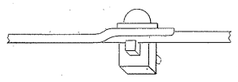
PLATFORM FOR PUBLIC PROMENADE



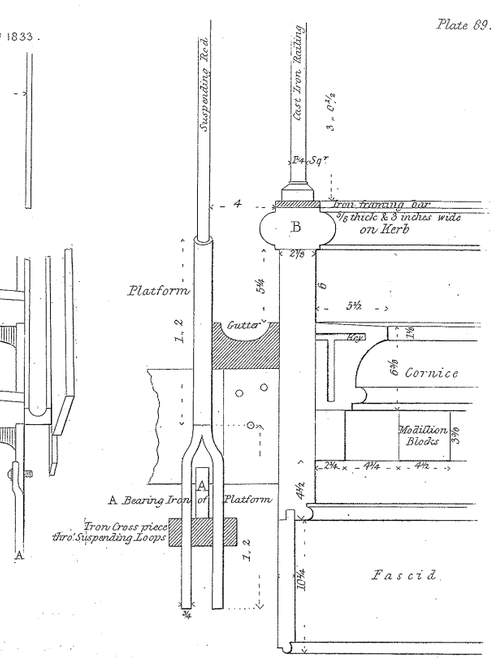


Angle of Tower at C was forced up 4 inches.

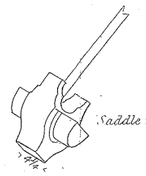
Nutt and Screw bolts at angles of Iron plates or Cills having ¾ wide Strap ends secured by bolts thro' the Pile heads



Plan shewing coupling of Iron bearer under the Platform

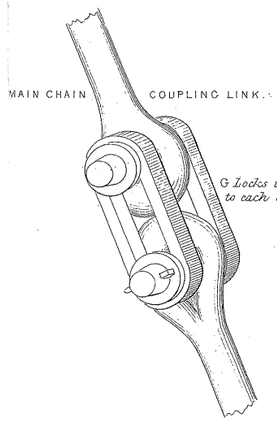


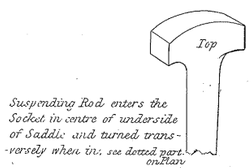
SECTION, AND SIDE ELEVATION.

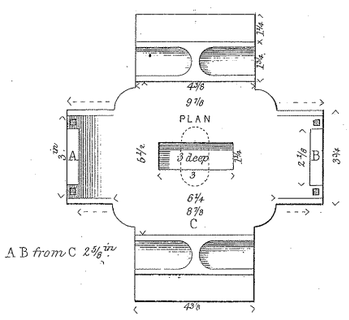


Saddle reversed

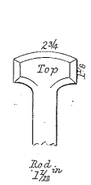
NOTE. The Iron was considerably exfoliated inside the fork of Suspending Rods and a flake readily separated therefrom 5in x 4in and ⅜ths thick this was the condition after exactly 10 years exposure & wear; but the bearing Iron (passing thro') proved excellent material as it deflected into the Sea without breaking.

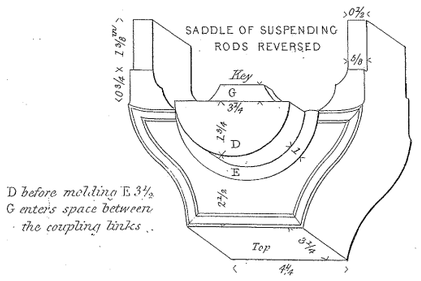



Top
Suspending Rod enters the Socket in centre of underside of Saddle and turned transversely when in, see dotted part on Plan



A B from C 2⅝in



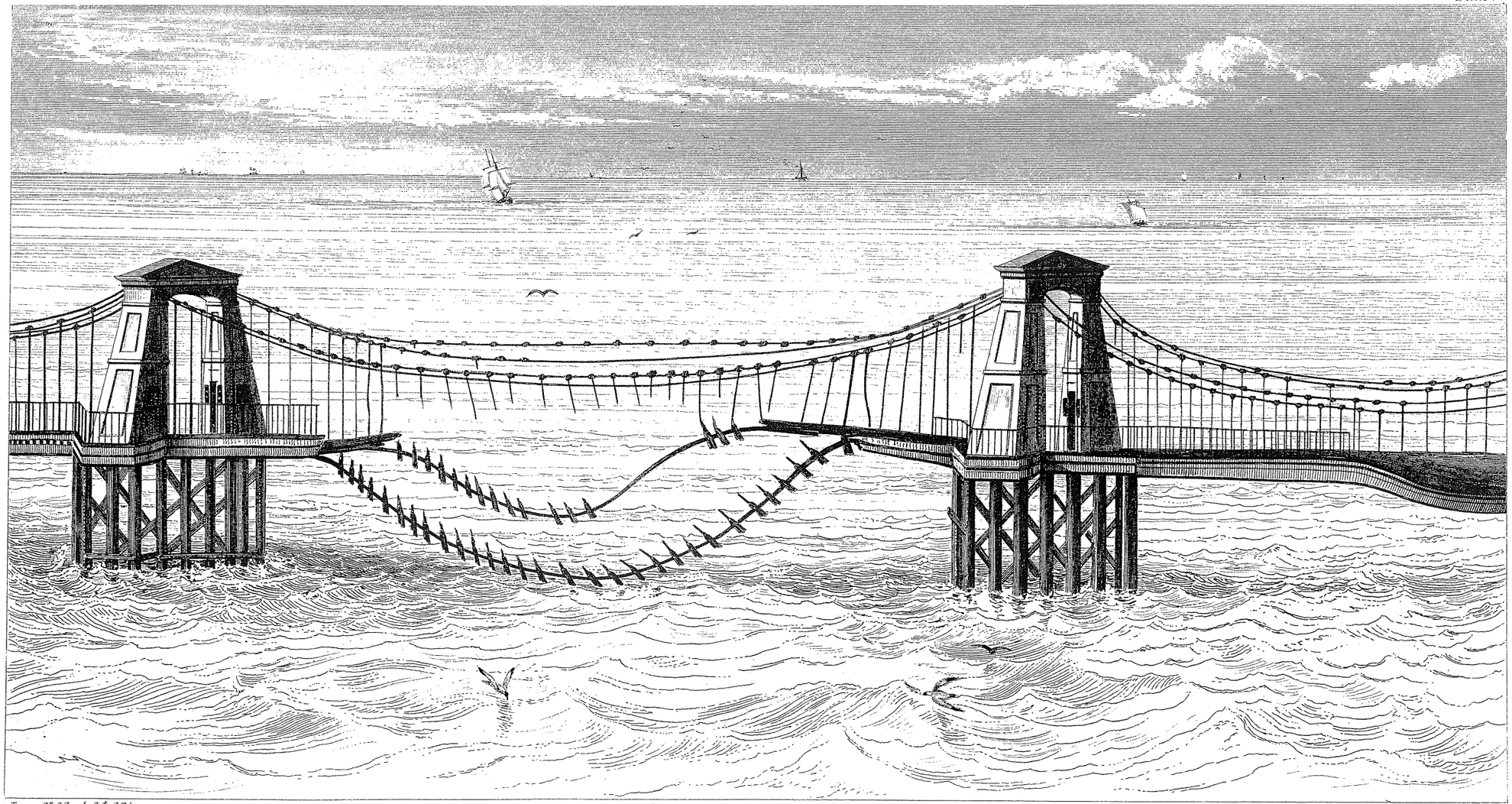


D before moulding E 3½ G enters space between the coupling links.

James Noble, Architect del

J.W. Lowry sculp.

London Published by John Weale Architectural Library 59 High Holborn. Sept. 1842.

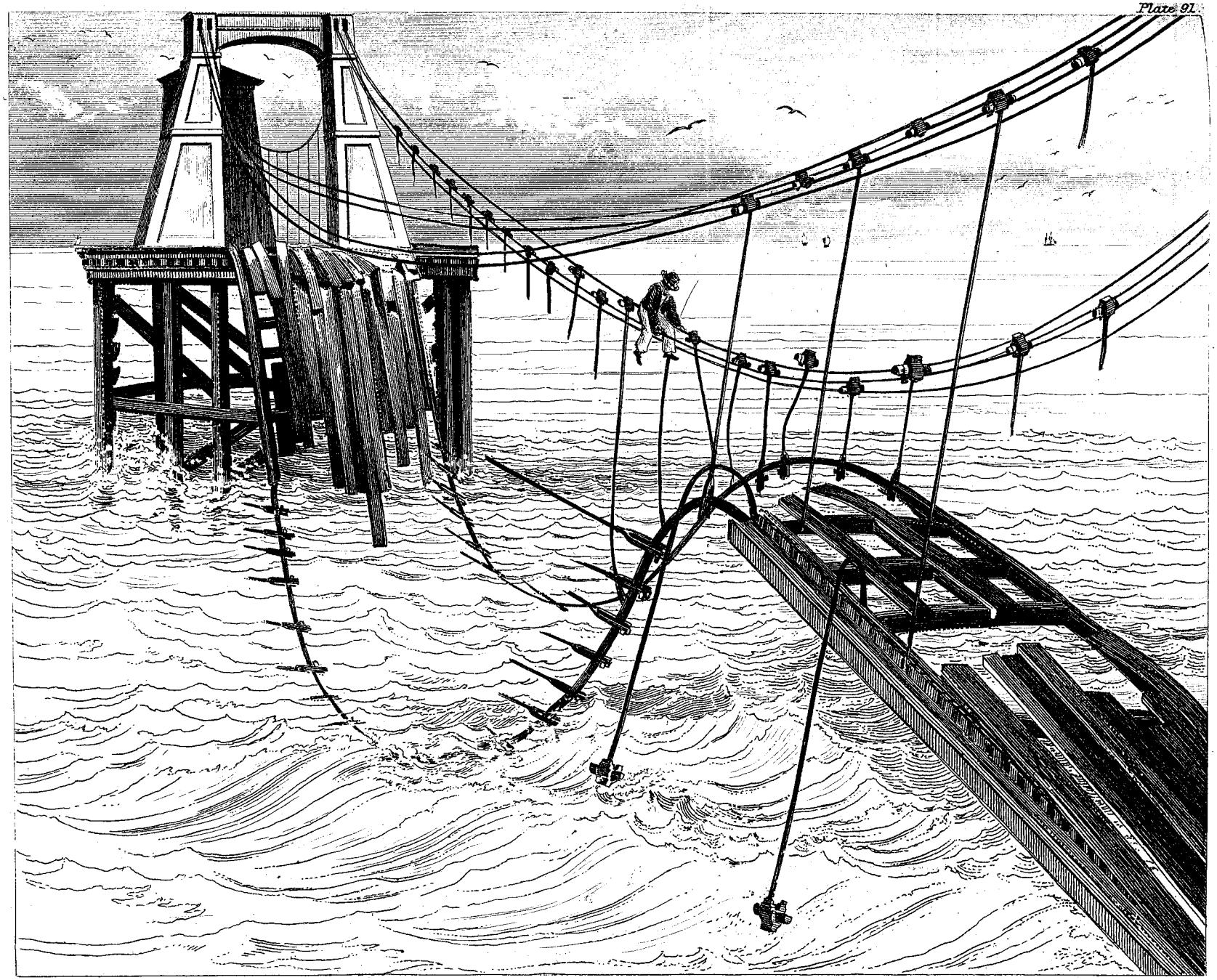


James Noble Archt. delin.

J.W. Lowry sculp.

WRECK OF THE BRIGHTON CHAIN PIER AS SEEN OCTr. 16Th. 1833.

John Weale Architectural Library, 59 High Holborn. Sept. 1842.



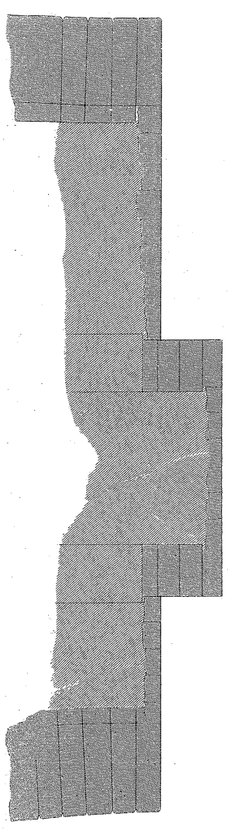
James Noble Arch.t delin.

J.W. Lowry sculp.

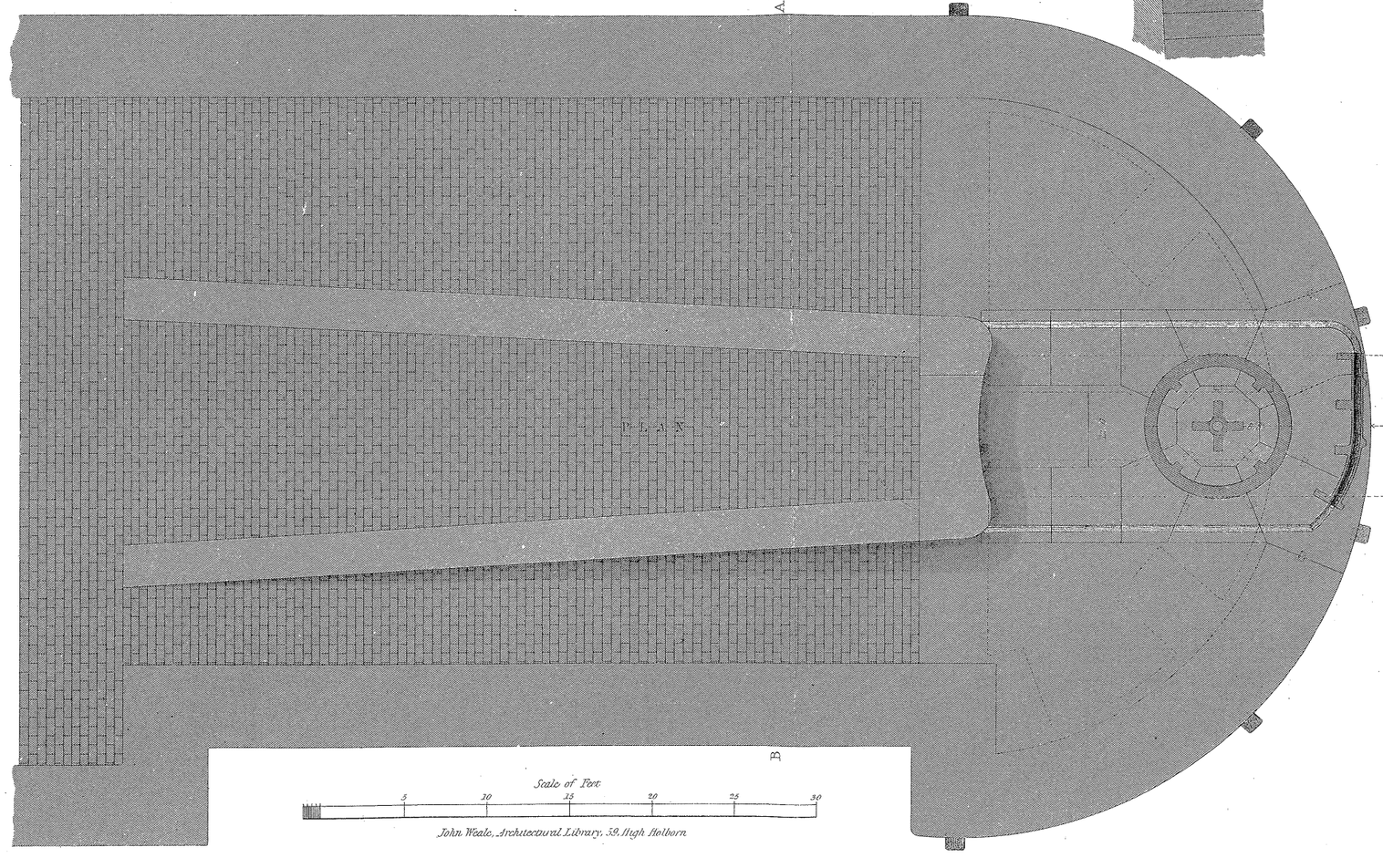
WRECK OF THE BRIGHTON CHAIN PIER AS SEEN OCT.R 16TH 1833.

CAST IRON SWING BRIDGE.

LONGITUDINAL SECTION



TRANSVERSE SECTION THROUGH A.B



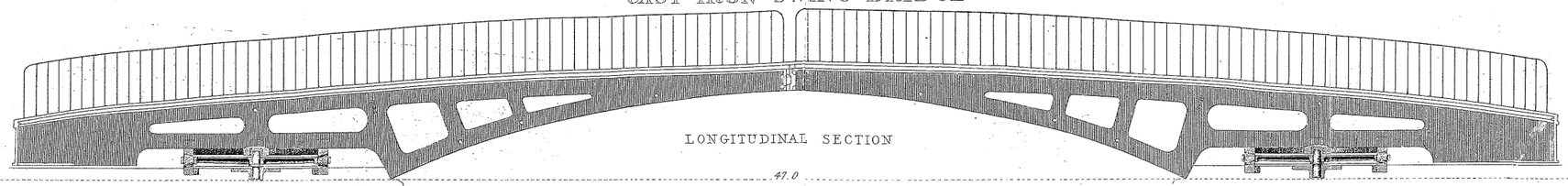
Scale of Feet

5 10 15 20 25 30

John Weale, Architectural Library, 59, High Holborn

S. Porter sc.

CAST IRON SWING BRIDGE.

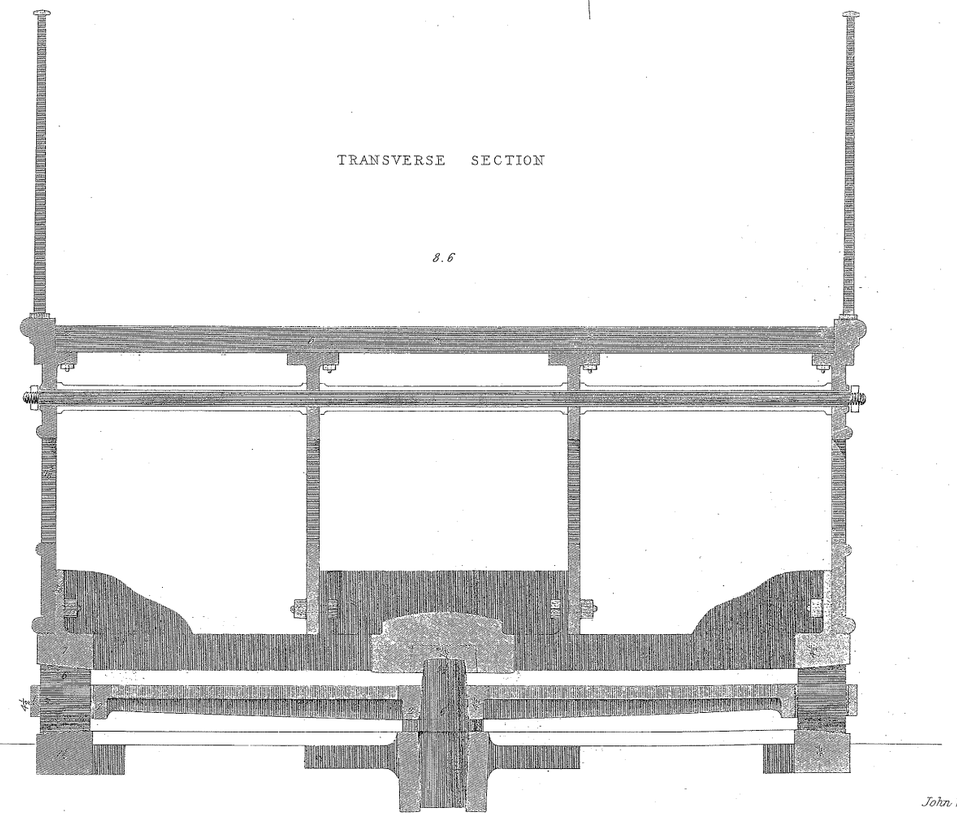


LONGITUDINAL SECTION

47.0

45.8.

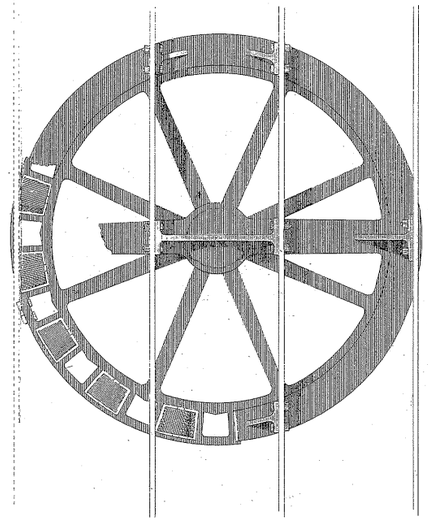
0 1 2 3 4 5 6 7 8 9 10 20 30 40



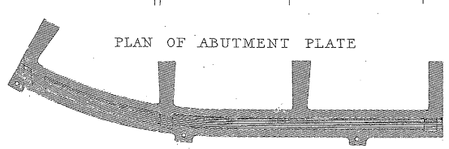
TRANSVERSE SECTION

8.6

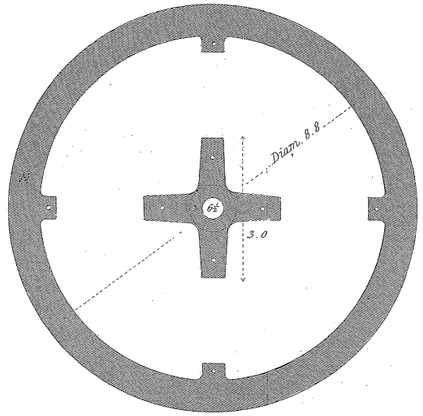
PLAN OF TURNING PLATE AND ROLLER FRAME



PLAN OF ABUTMENT PLATE

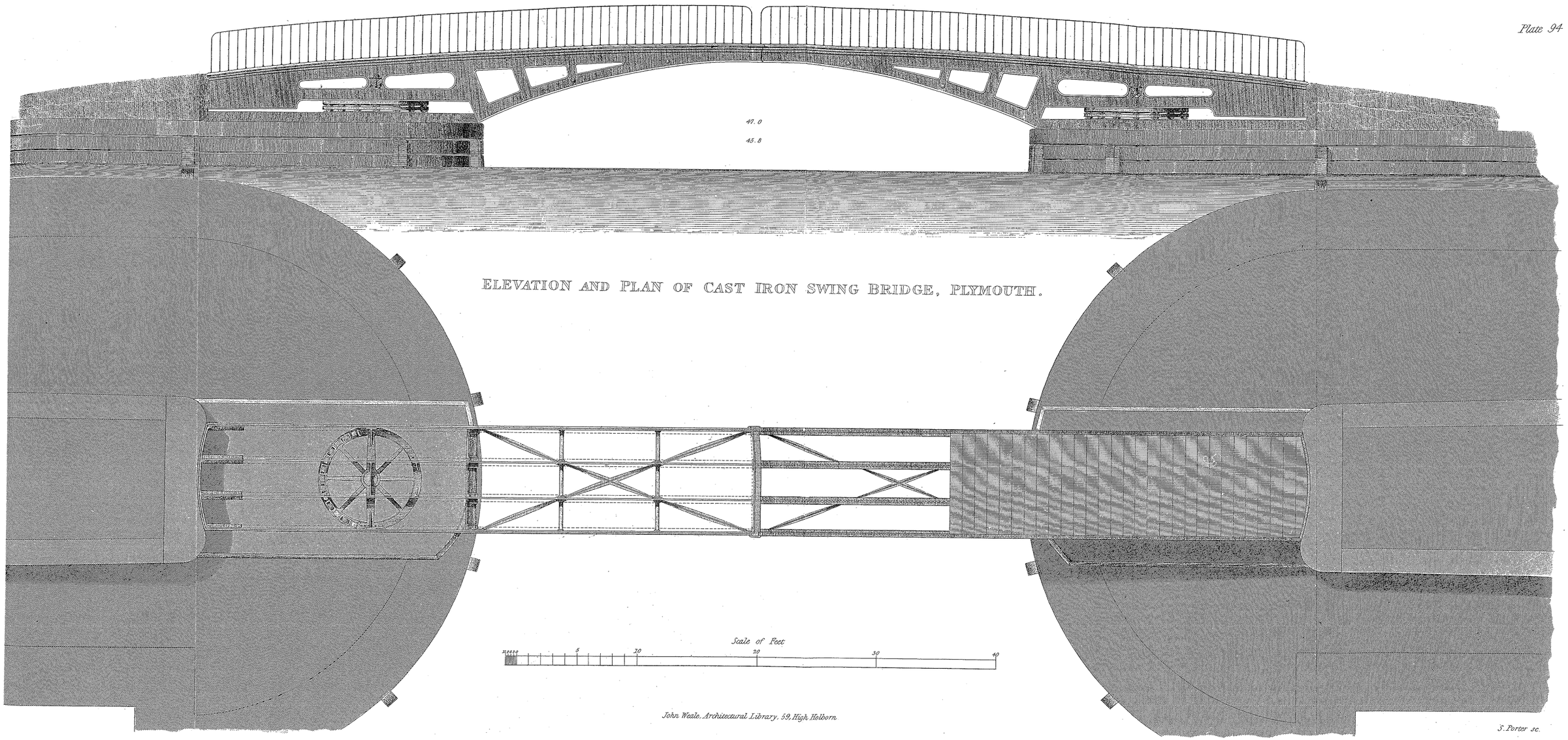


PLAN OF BED PLATE



John Weale, Architectural Library, 59, High Holborn.

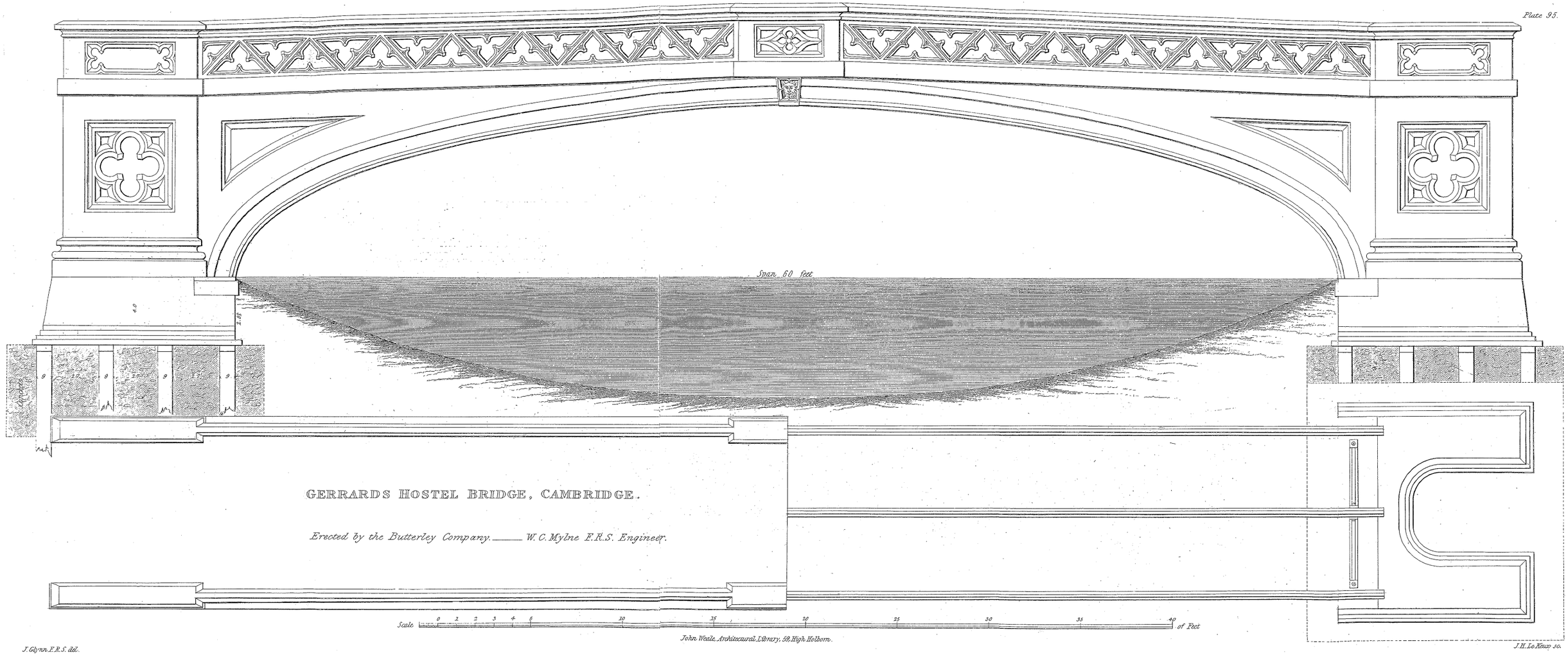
S. Porter sc.



ELEVATION AND PLAN OF CAST IRON SWING BRIDGE, PLYMOUTH.

John Weale, Architectural Library, 59, High Holborn.

S. Porter sc.



GERRARDS HOSTEL BRIDGE, CAMBRIDGE.

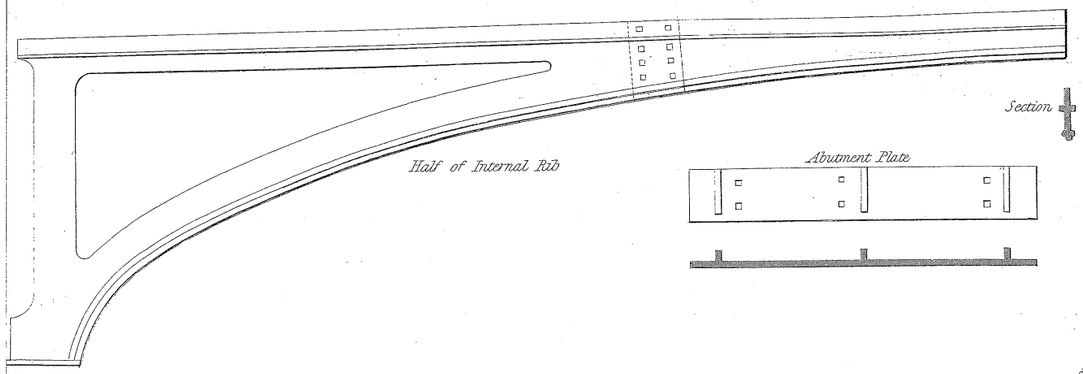
Erected by the Butterley Company. —— *W. C. Mylne F.R.S. Engineer.*

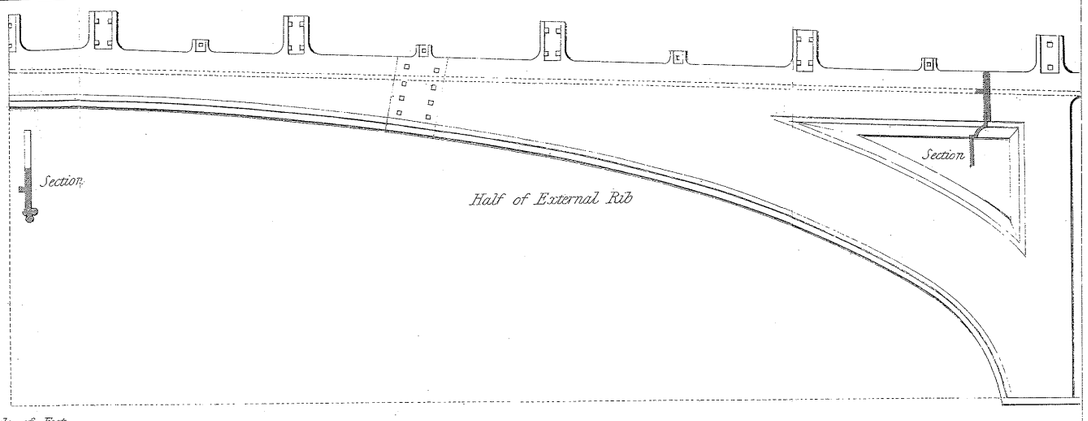
John Weale, Architectural Library, 59, High Holborn.

J. Glynn F.R.S. del.

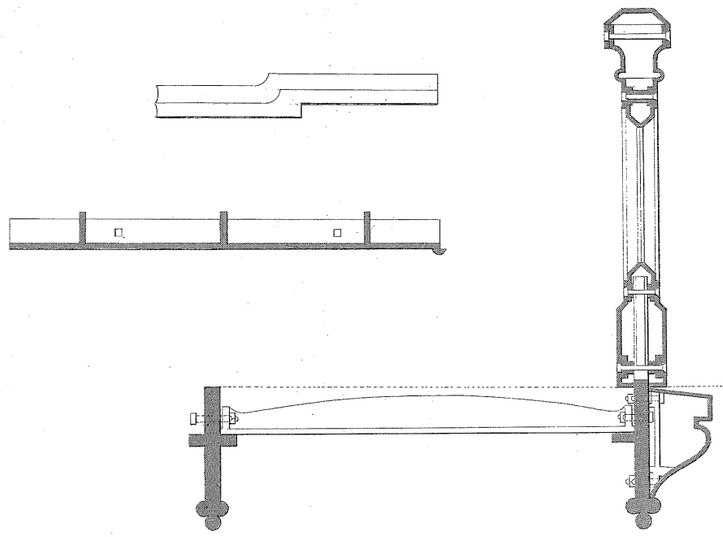
J.H. Le Keux sc.

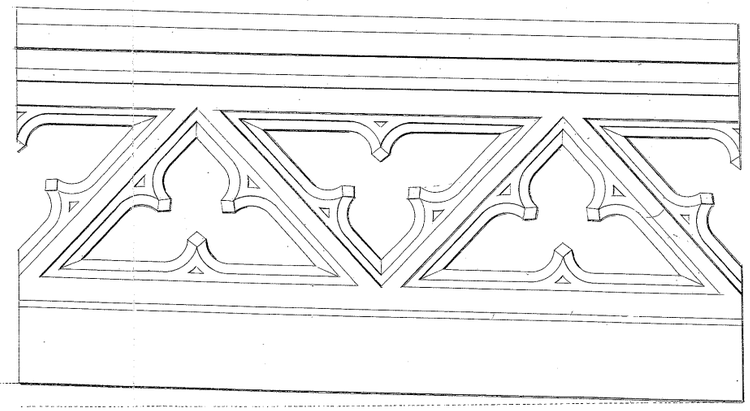
GERRARDS HOSTEL BRIDGE, CAMBRIDGE.





Scale of Feet
1 2 3 4 5 10 15 20 25 30

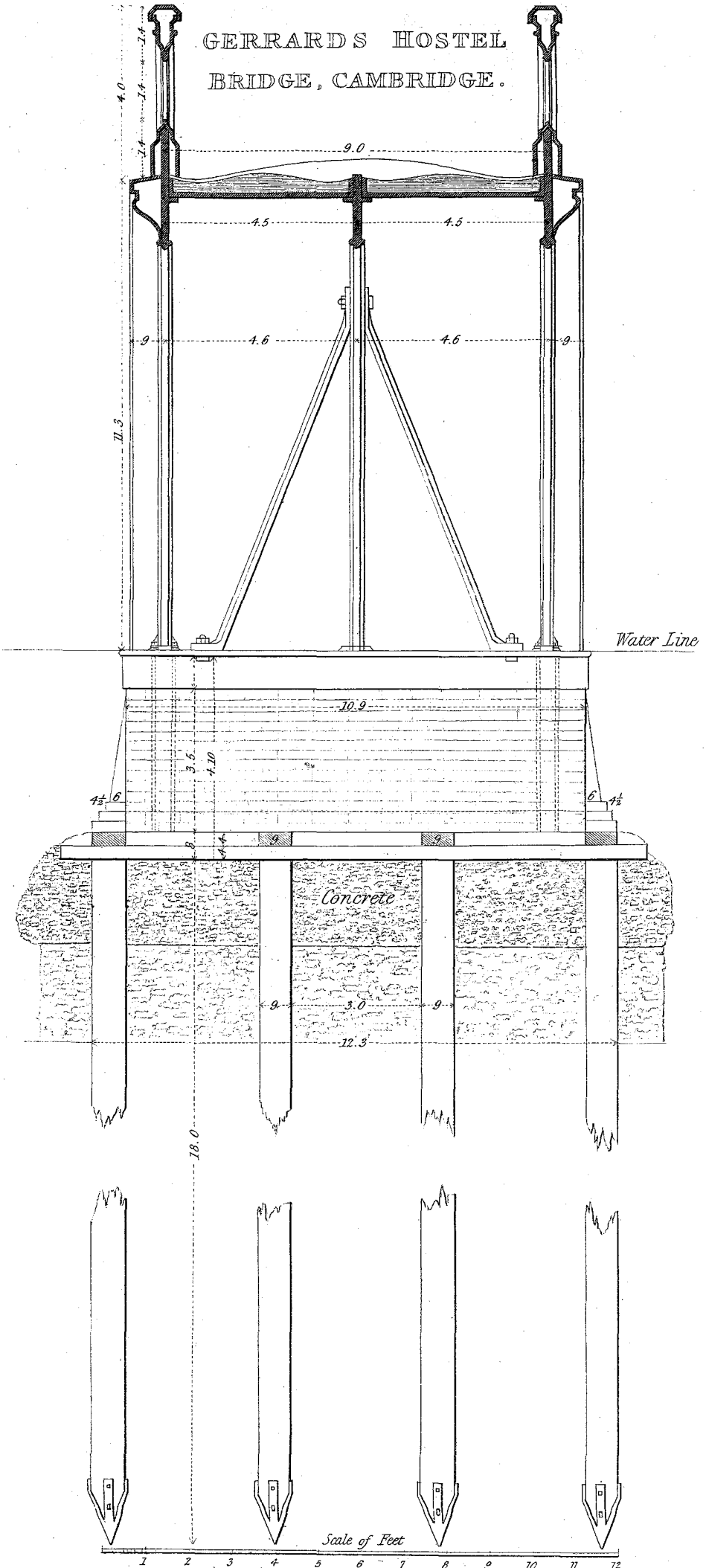




Scale of Feet
0 1 2 3 4 5 6 7

J. Glynn F.R.S. del. — John Weale, Architectural Library, 59, High Holborn. — J.H. Le Keux sc.

GERRARDS HOSTEL BRIDGE, CAMBRIDGE.



J.Glynn F.R.S. del.

FRIBOURG SUSPENSION BRIDGE.

Plate 96

General Elevation.

Fig. 1 *With a Section of the Valley of the Sarine & of the Mooring shafts &c.*

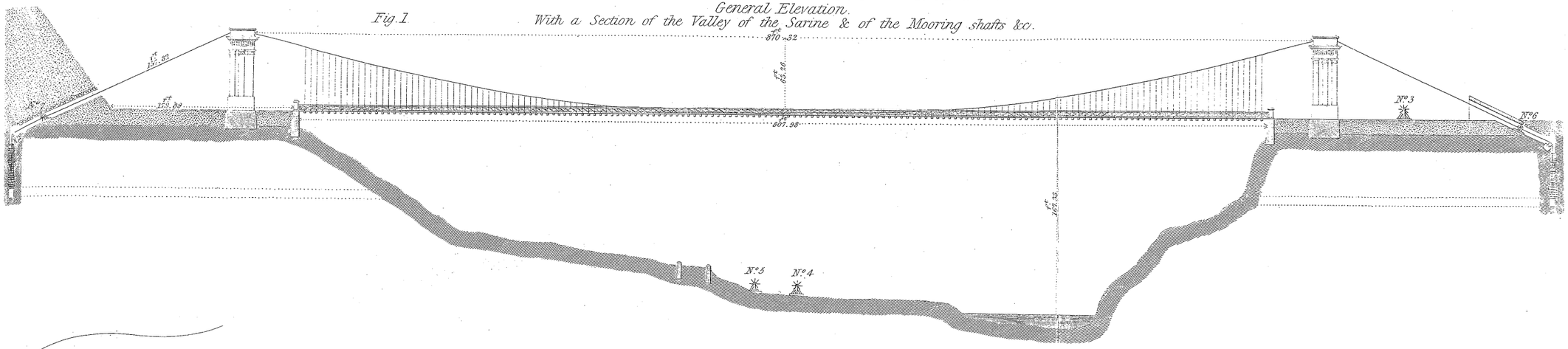
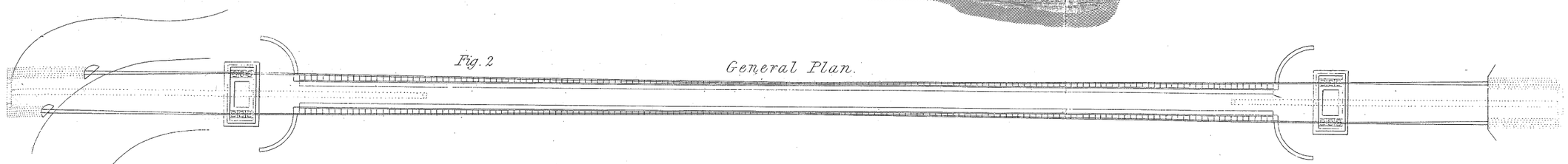
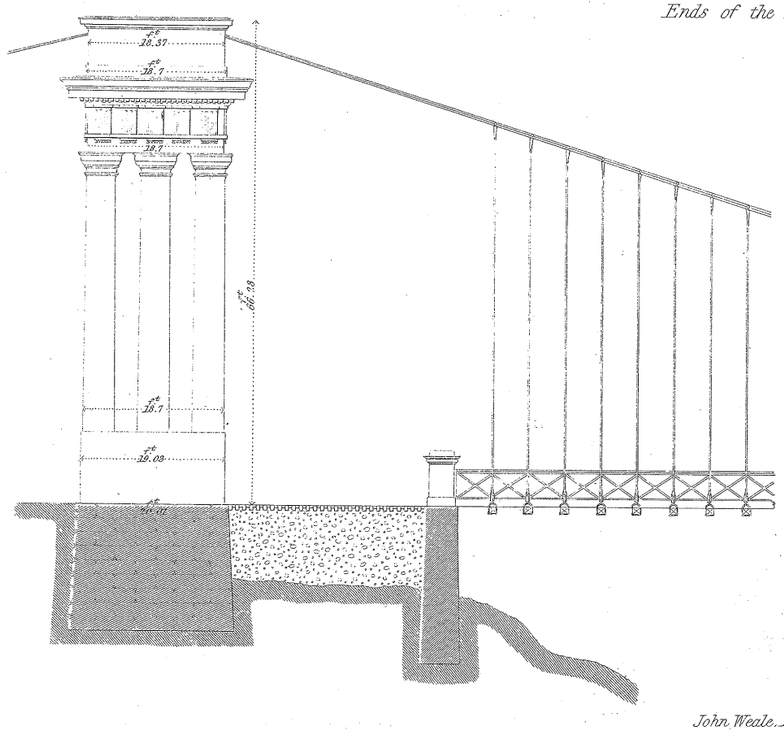


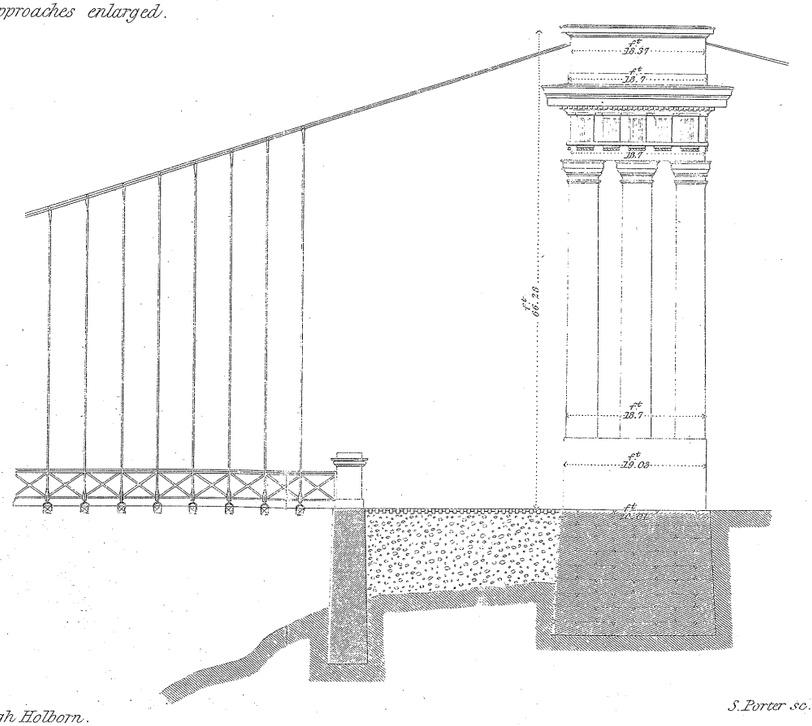
Fig. 2 *General Plan.*



Ends of the Main Piers with the approaches enlarged.

Fig. 3





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FRIBOURG SUSPENSION BRIDGE.

Fig. 1

Elevation of Main Pier.

(Transversely of the Bridge)

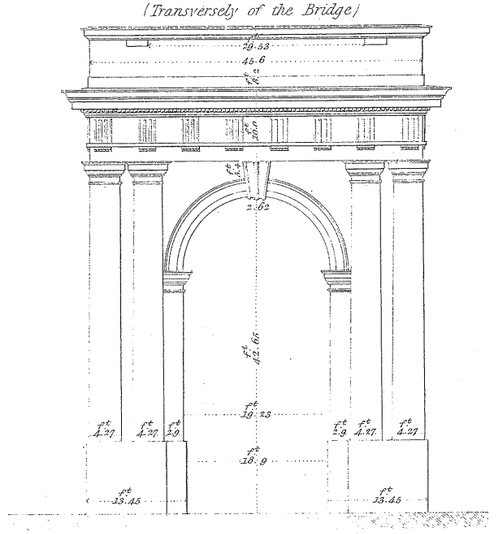


Fig. 2

Transverse Section of Main Pier.

(Longitudinal of the Bridge)

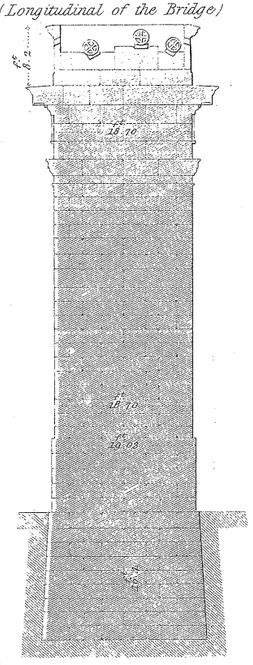


Fig. 3

Longitudinal Section of Main Pier.

(Transverse of the Bridge)

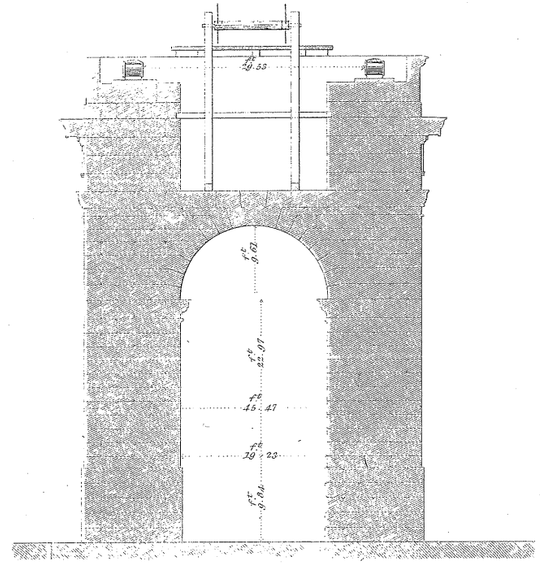


Fig. 6

Plan of the top of a Main Pier.

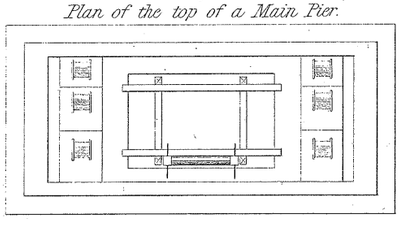


Fig. 5

Plan of Main Pier.

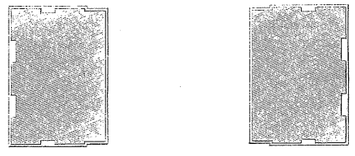


Fig. 8

Detailed Elevation of the Balustrade & Pedestal.

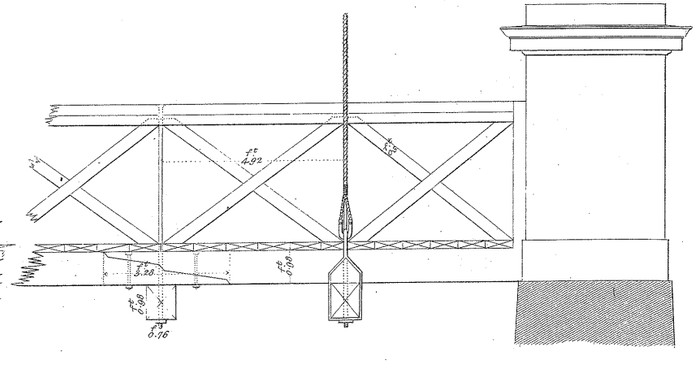


Fig. 9

Detailed Section of the Footway &c.

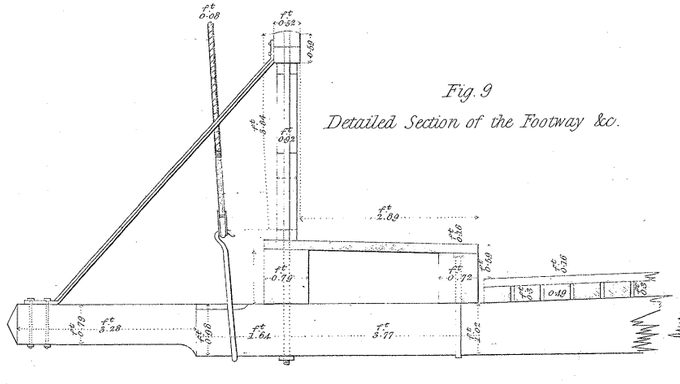
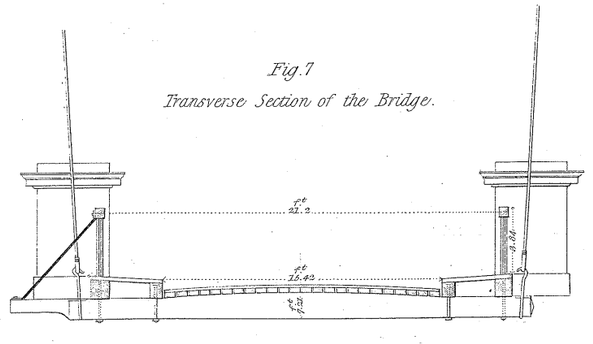


Fig. 7

Transverse Section of the Bridge.



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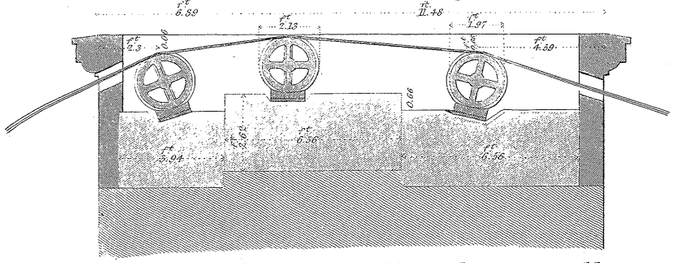
FRIBOURG SUSPENSION BRIDGE.

Fig. 1

Detailed Transverse Section of the head of a Main pier with the friction rollers, & the suspension cables lying over them.



Mode of attaching the suspension cables to the mooring cables.

Fig. 10
Elevation in face

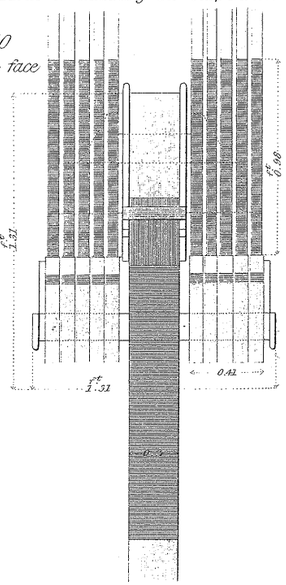


Fig. 11
Side Elevation

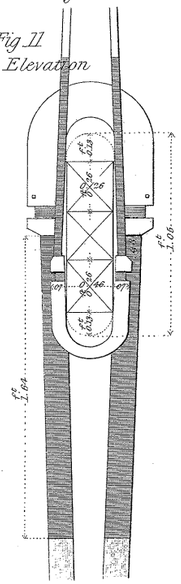
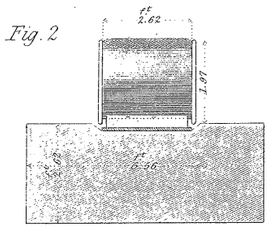
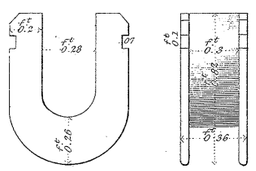


Fig. 2



Front elevation of Friction roller seen in Fig. 1. with the suspension cables in the form of a band lying upon it.

Fig. 12 & 13



Face & side of stirrup or crupper iron at the attachment of cables in Figs. 10 & 11.

Fig. 4

Longitudinal Section of the mooring shafts & gallery of communication, & transverse of the emissary.

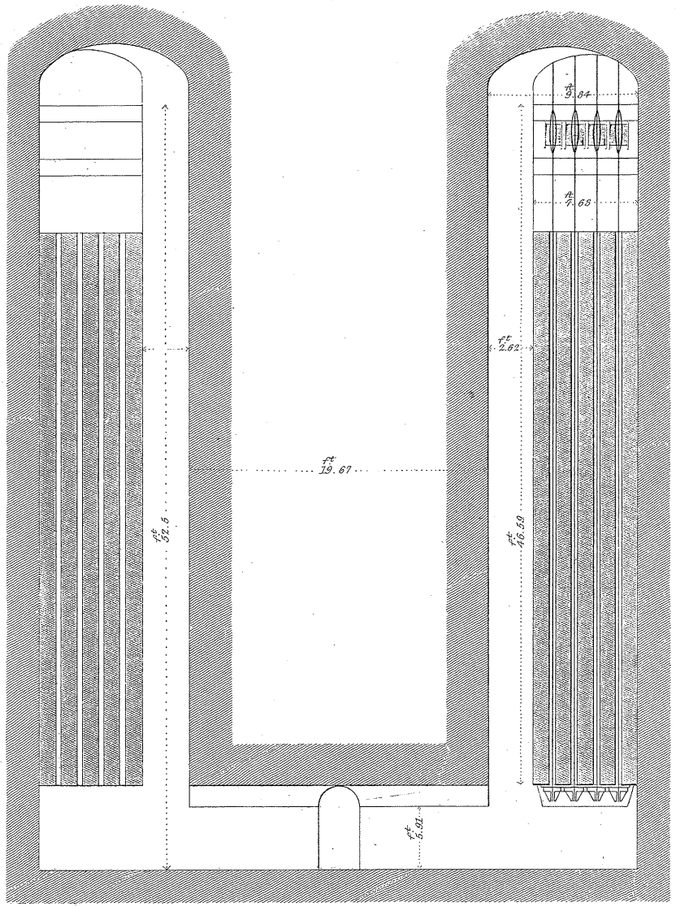
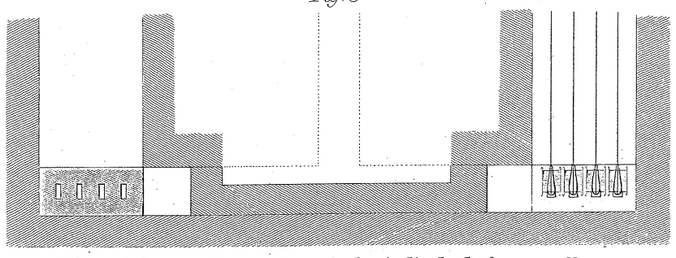


Fig. 3



Plan of the mooring shafts with the inclined shafts or gallery, the gallery of communication, & the adit or emissary.

Fig. 5

Transverse Section of a mooring shaft & of the inclined shaft or gallery, leading down to it.

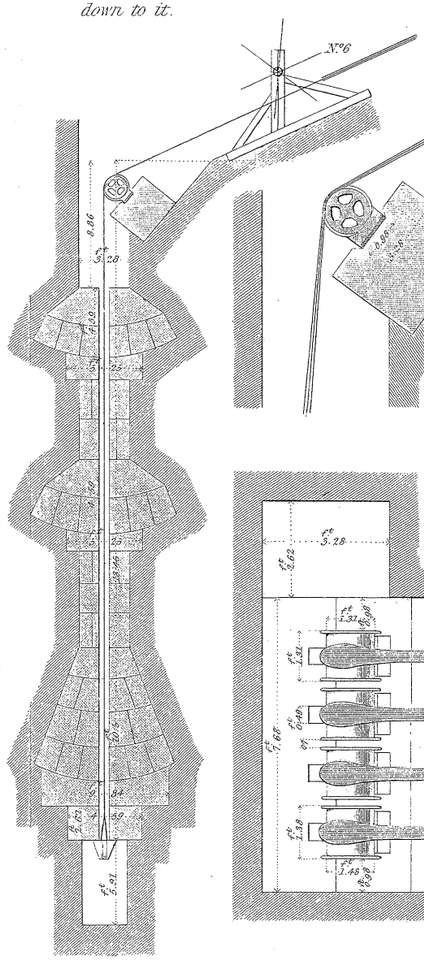


Fig. 6

Details of a friction roller at the entrance of a mooring shaft.

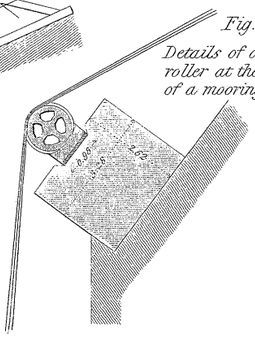


Fig. 7

Detailed Plan of the entrance to a mooring shaft.

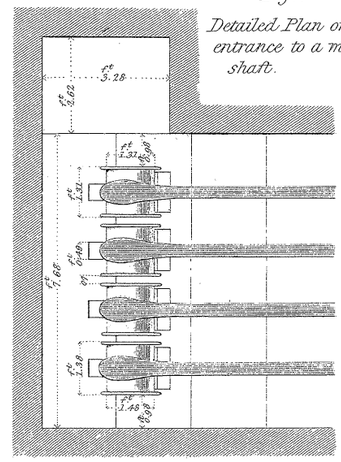


Fig. 8

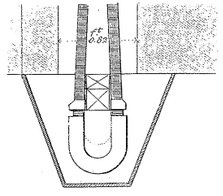
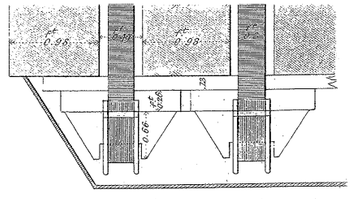


Fig. 9



Details of the mode of securing the mooring cables at the bottom of the shafts.

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FRIBOURG SUSPENSION BRIDGE.

Fig. 1

Frame used in the manufacture of the mooring cables.

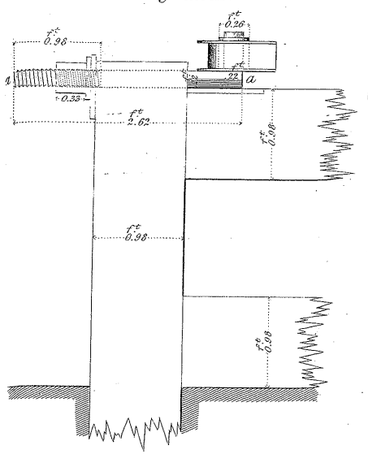


Fig. 4

Section of the Scaffold on the Main Pier, with the Winches used to raise the suspension cables.

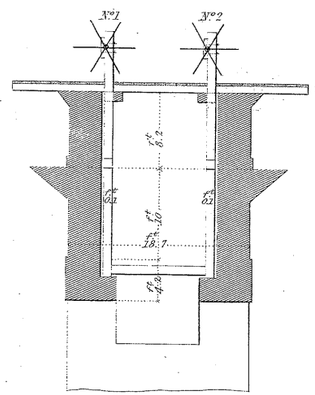
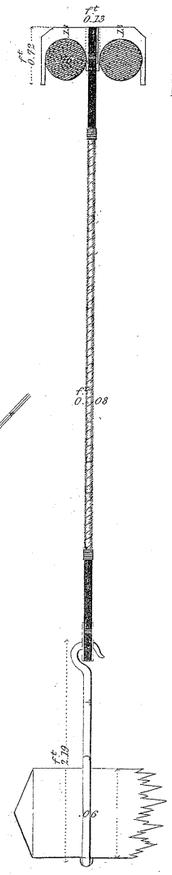


Fig. 5



Mode of suspending the beams of the bridge floor.

Fig. 6

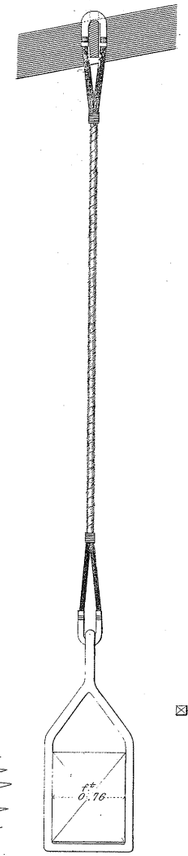
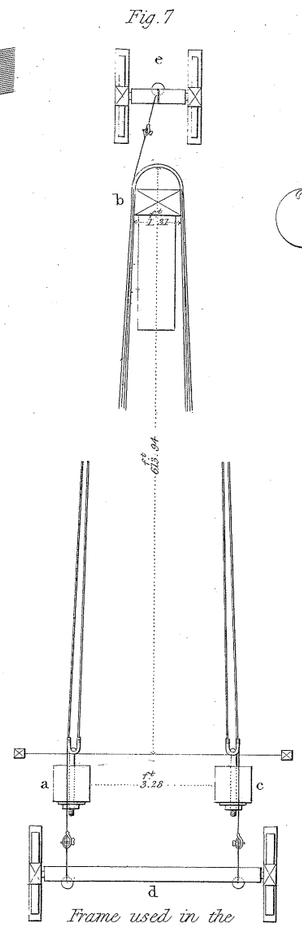


Fig. 7



Frame used in the manufacture of the suspension cables.

Fig. 2

Elevation of the frame used in the manufacture of the mooring cables with the crane serving to stretch & bend them.

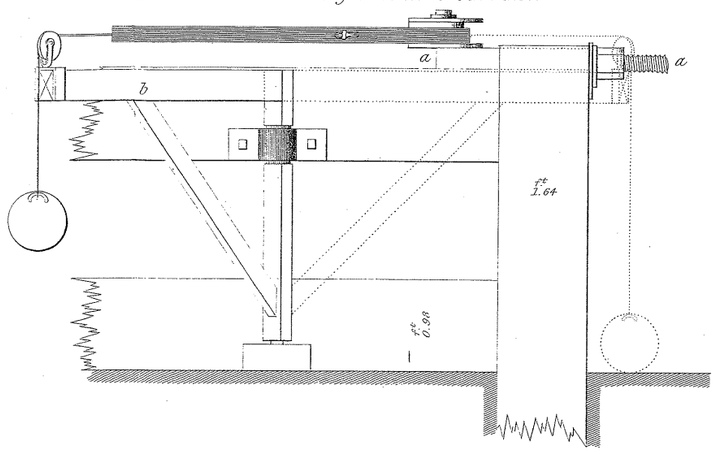


Fig. 3

Plan of the head of the frame in Fig. 2 with that of the crane.

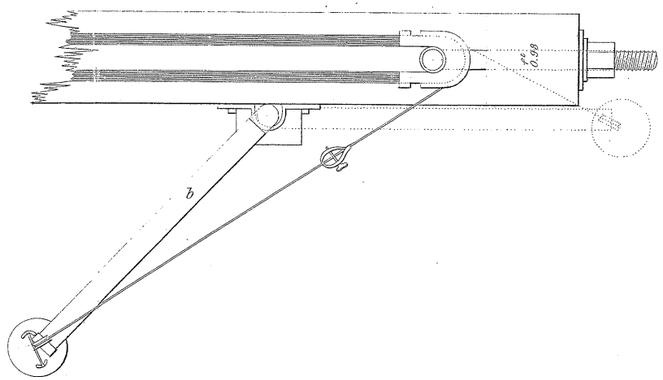
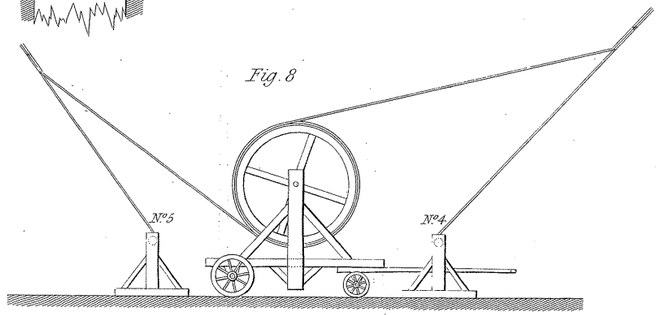
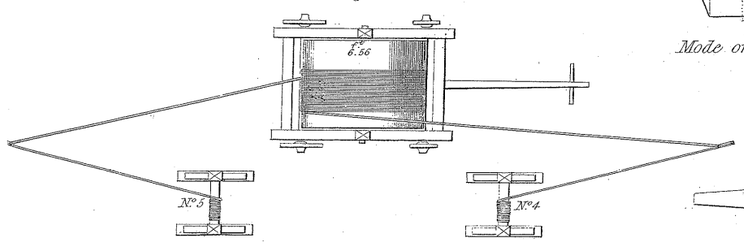


Fig. 8



Car & Windlasses placed at the bottom of the valley to carry & raise the suspension cables.

Fig. 9



Plan of the Car & Windlasses shewn in Fig. 8.

Fig. 10

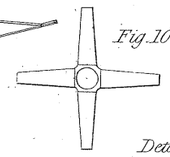
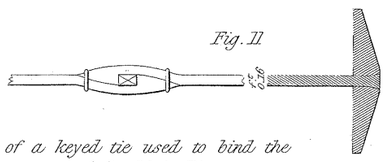


Fig. 11



Detail of a keyed tie used to bind the masonry of the Main Pier.

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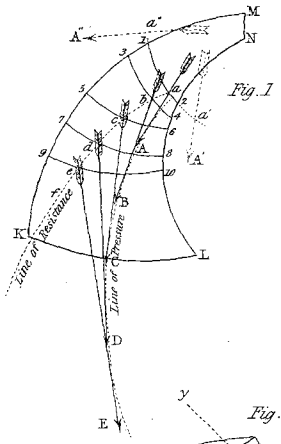


Fig. 1

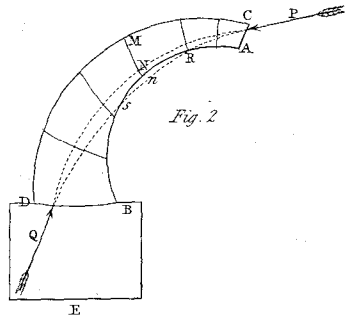


Fig. 2

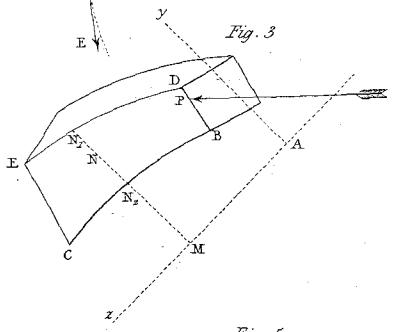


Fig. 3

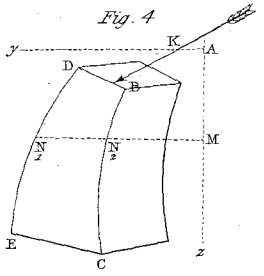


Fig. 4

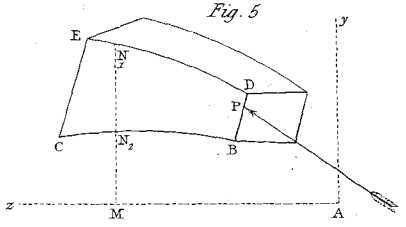


Fig. 5

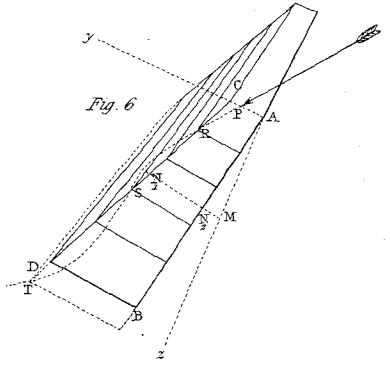


Fig. 6

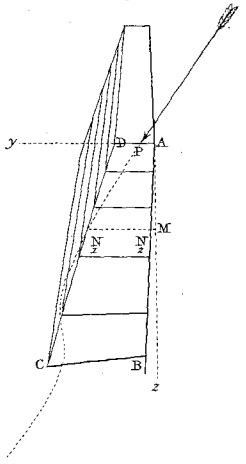
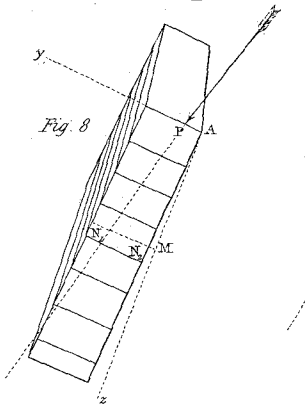


Fig. 7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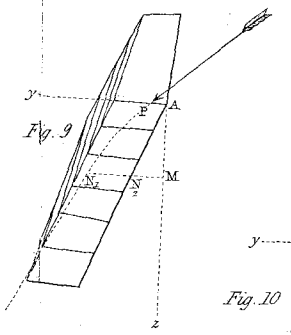
Fig. 9

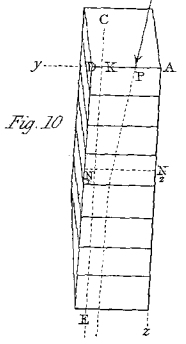
Fig. 10

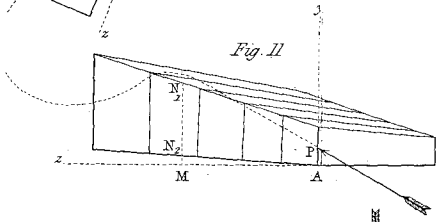
Fig. 11

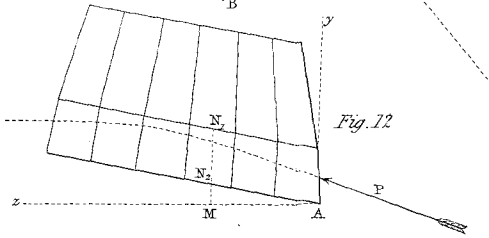
Fig. 12

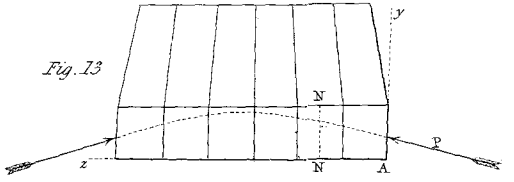
Fig. 13

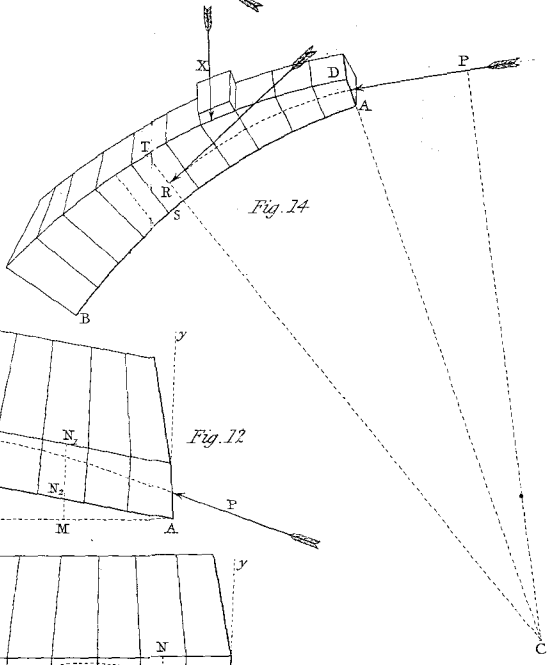
Fig. 14

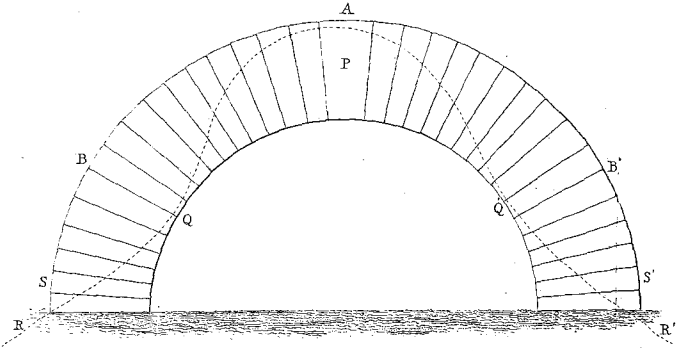
Fig. 15

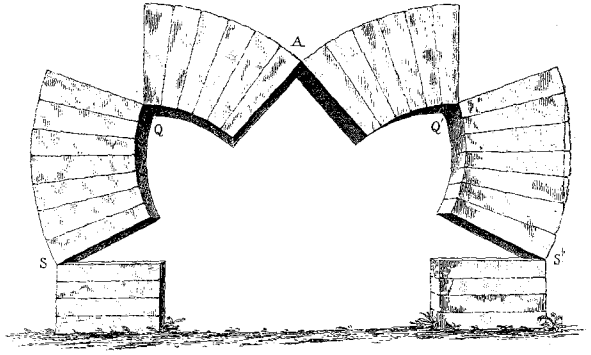
Fig. 16

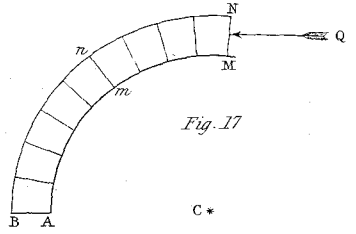
Fig. 17

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Fig. 18.

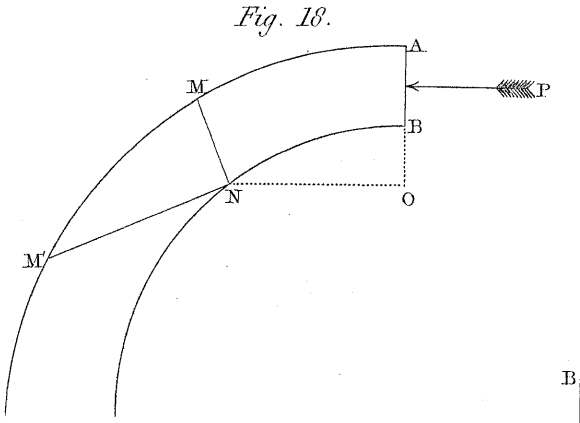
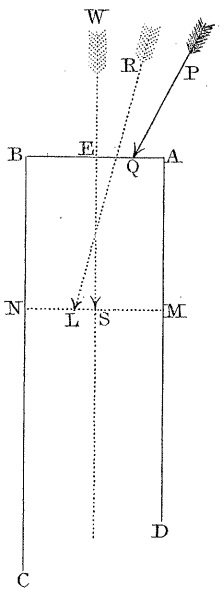


Fig. 20.



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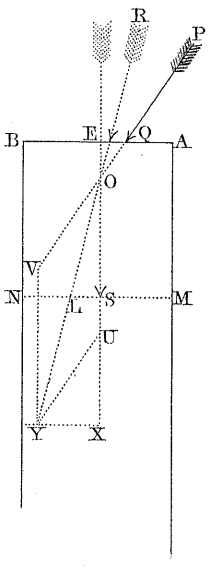

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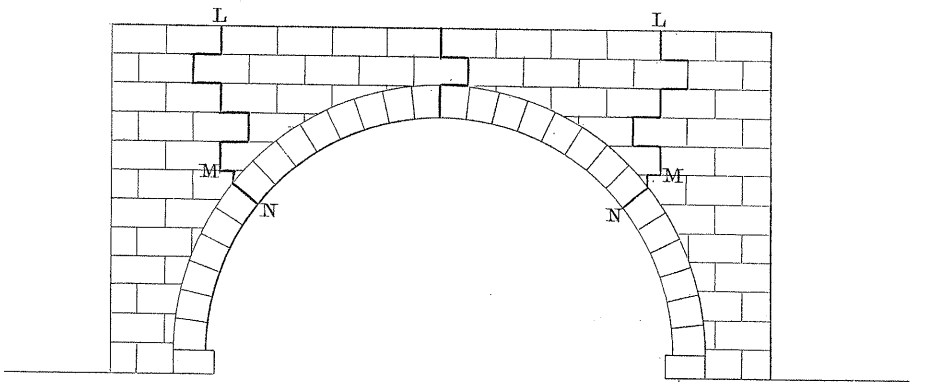

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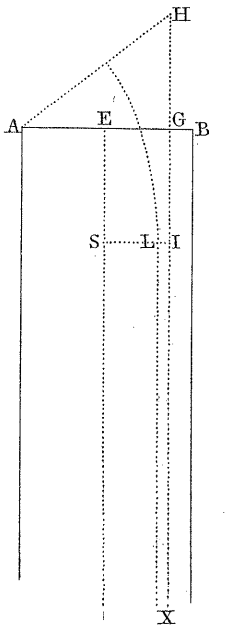
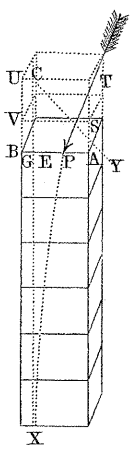


Fig. 23.



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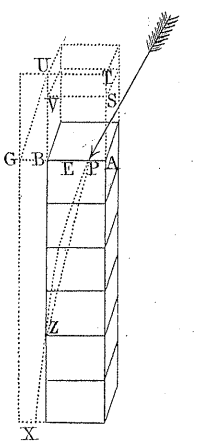
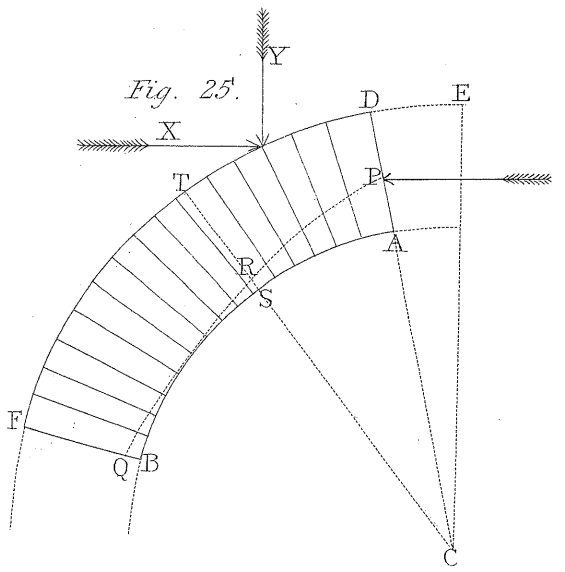


John Weale, Architectural Library, 59 High Holborn.

B.R.Davies sculp.

Fig. 25.



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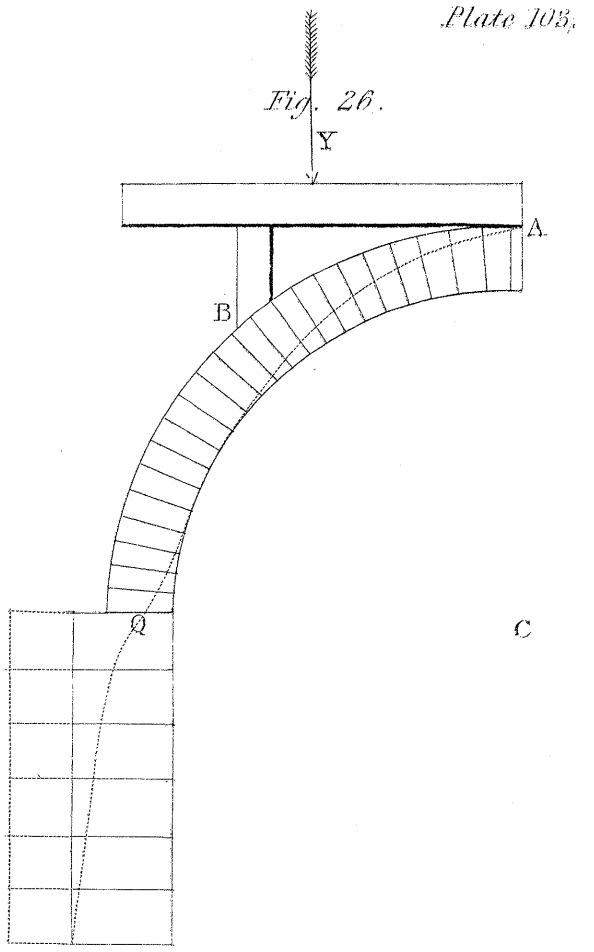

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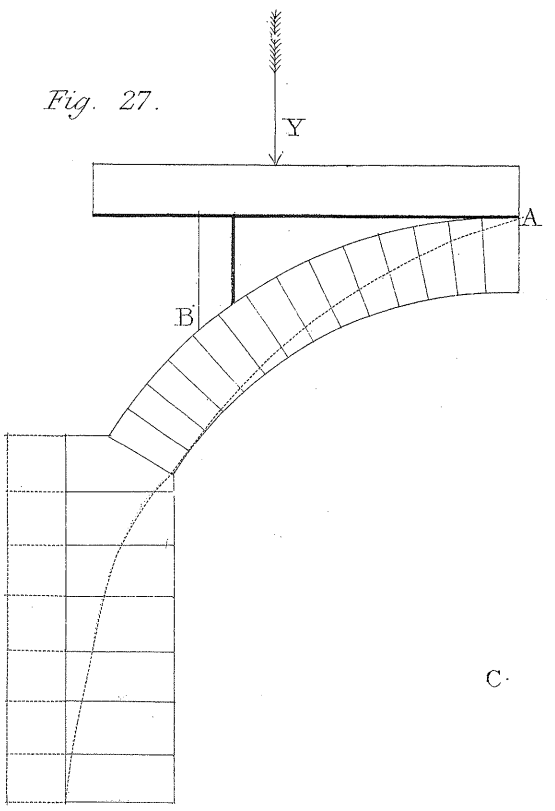

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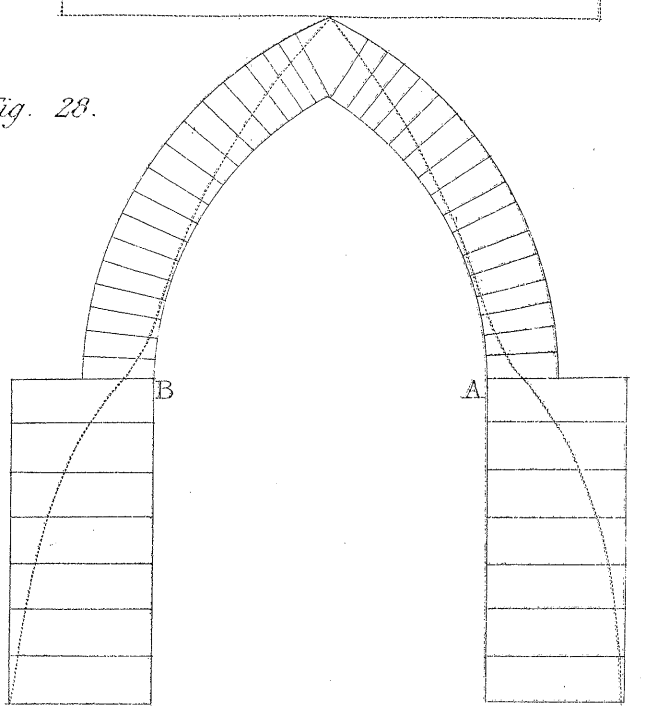

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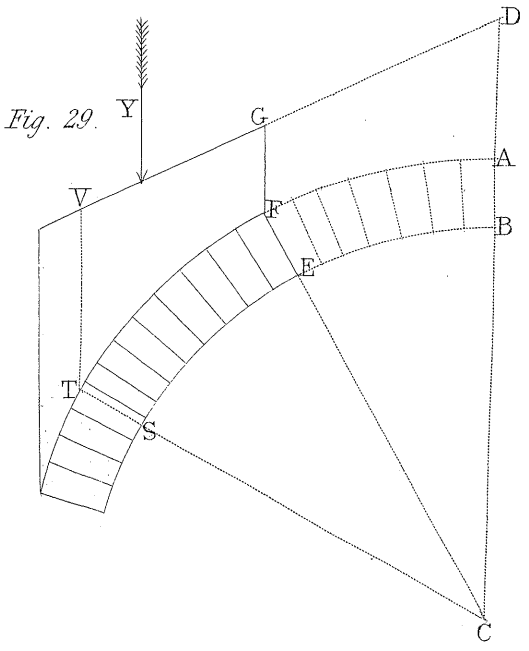
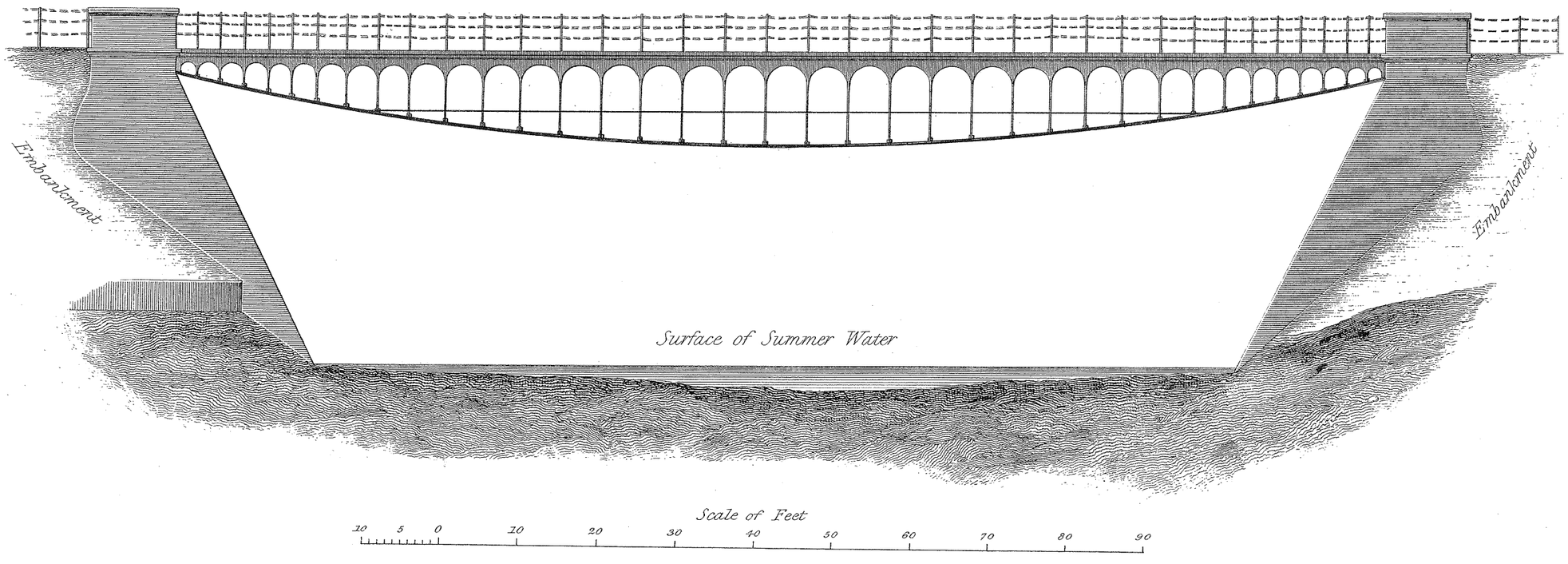


B.R.Davies Sculp.

Elevation of a Chain Bridge upon the Catenarian principle.

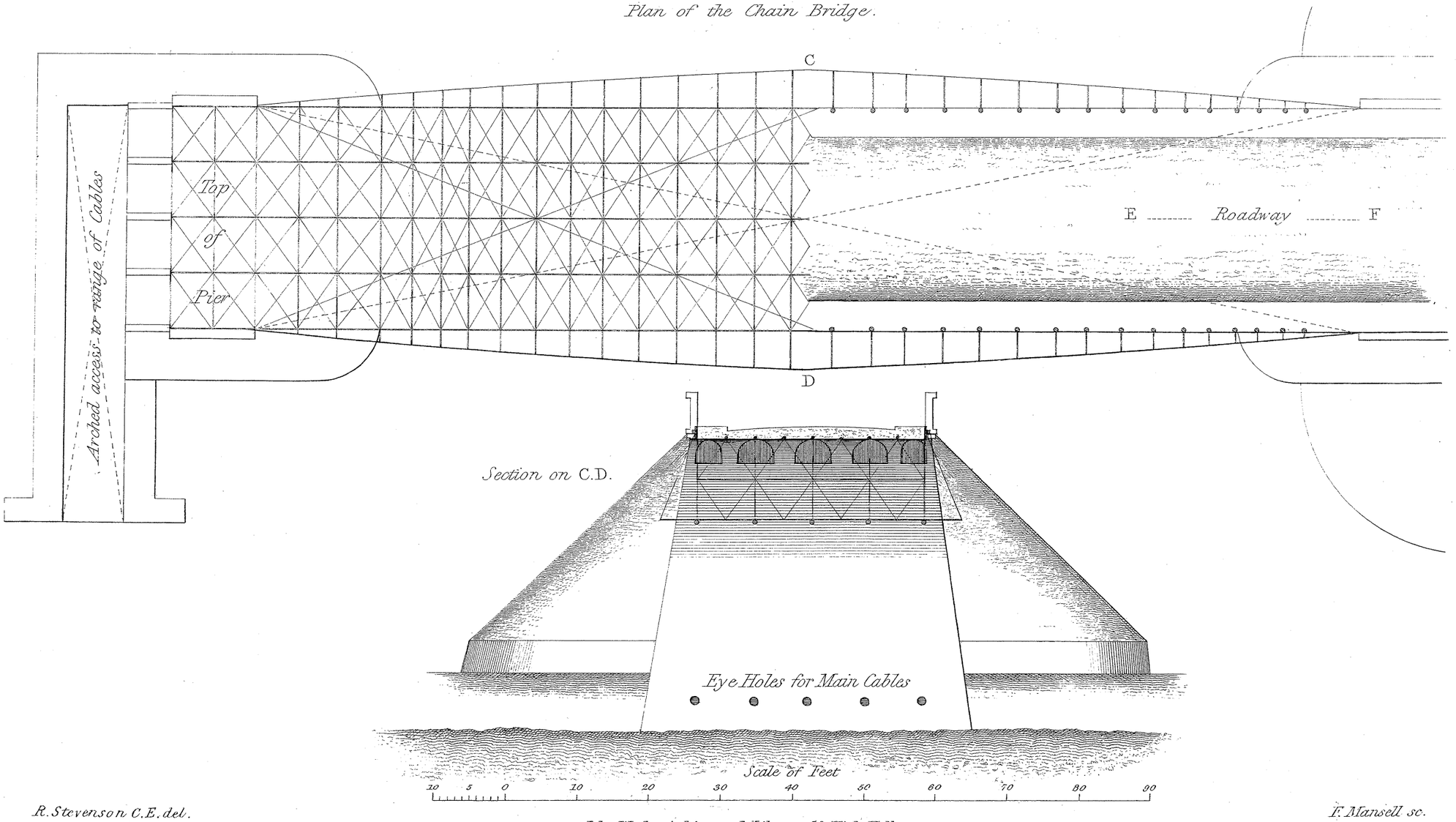


R. Stevenson C.E. del.

F. Mansell sc.

John Weale, Architectural Library, 59, High Holborn.

Plan of the Chain Bridge.

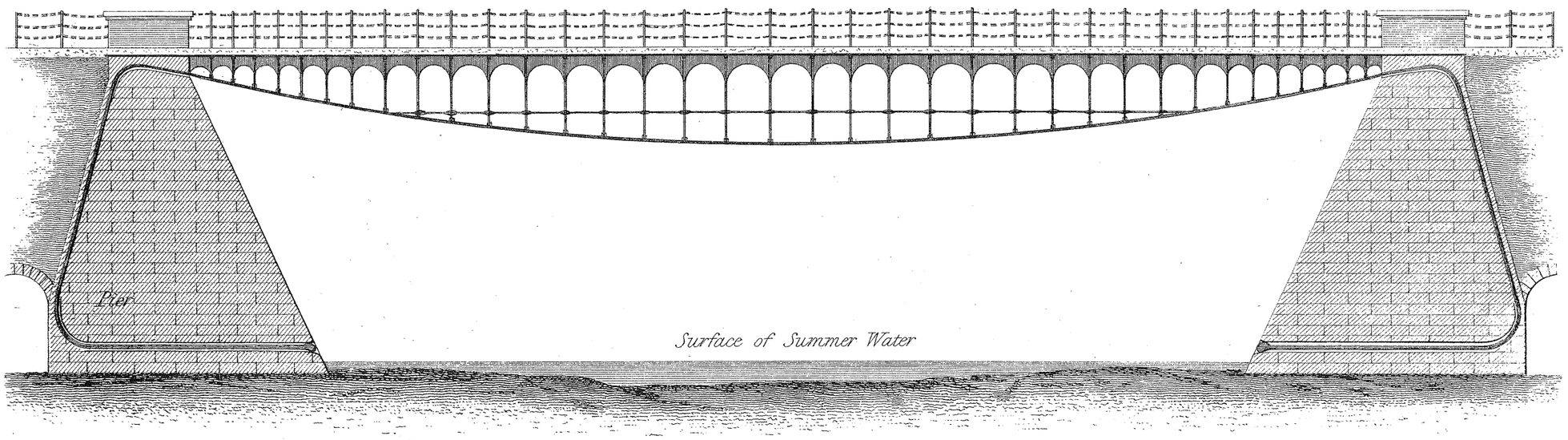

C
D
Top of Pier
Arched access to ridge of Cables
E ..... Roadway ..... F
Section on C.D.
Eye Holes for Main Cables
Scale of Feet
10 5 0 10 20 30 40 50 60 70 80 90

R. Stevenson C.E. del.

F. Mansell sc.

John Weale, Architectural Library, 59, High Holborn.

Longitudinal Section of the Chain Bridge.



Scale of Feet

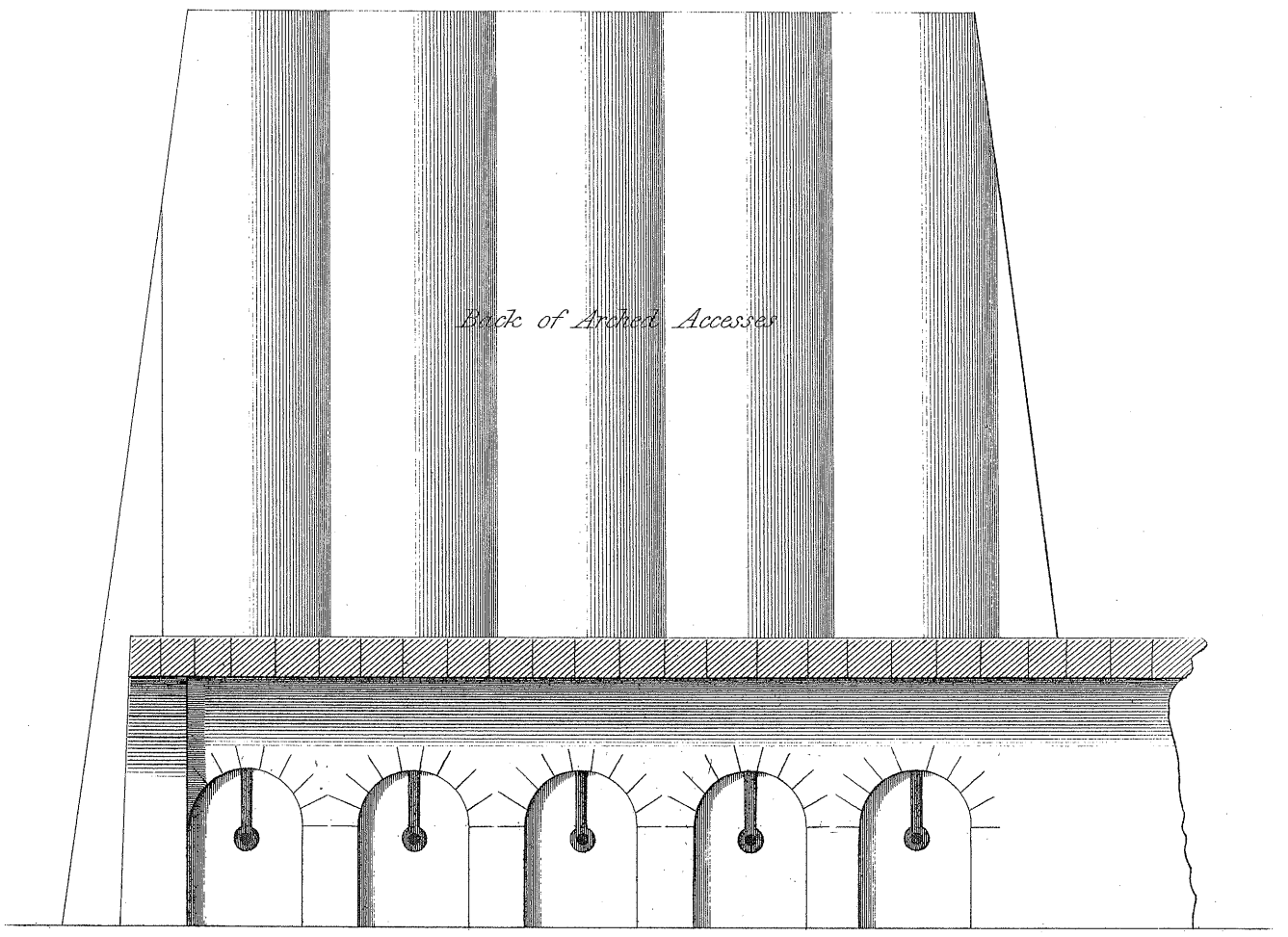
10 5 0 10 20 30 40 50 60 70 80 90

R. Stevenson C.E. del.

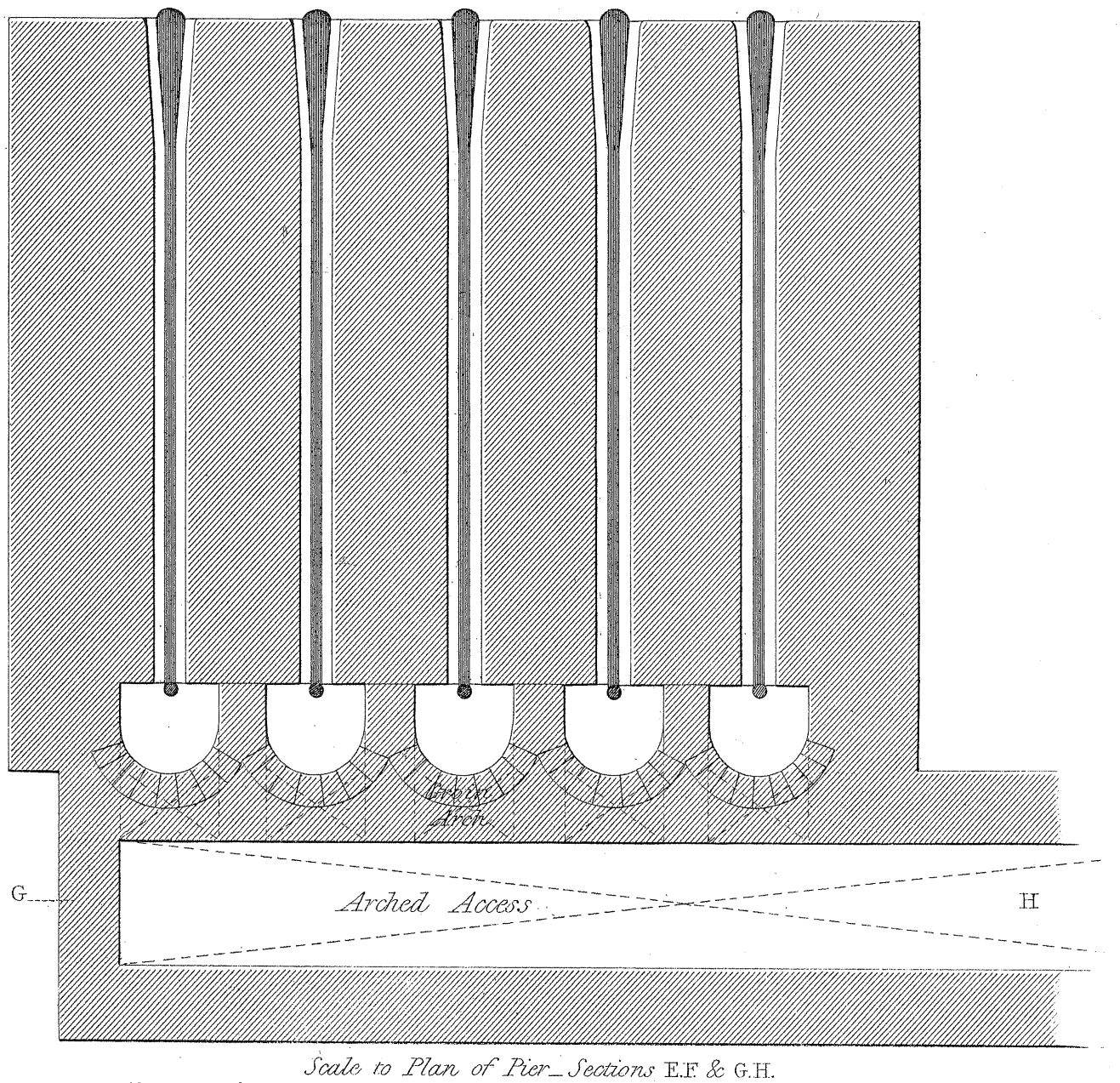
F. Mansell sc.

John Weale, Architectural Library, 59, High Holborn.

Section on G.H.



Plan of Pier shewing the Cables &c.



Scale to Plan of Pier_ Sections E.F & G.H.

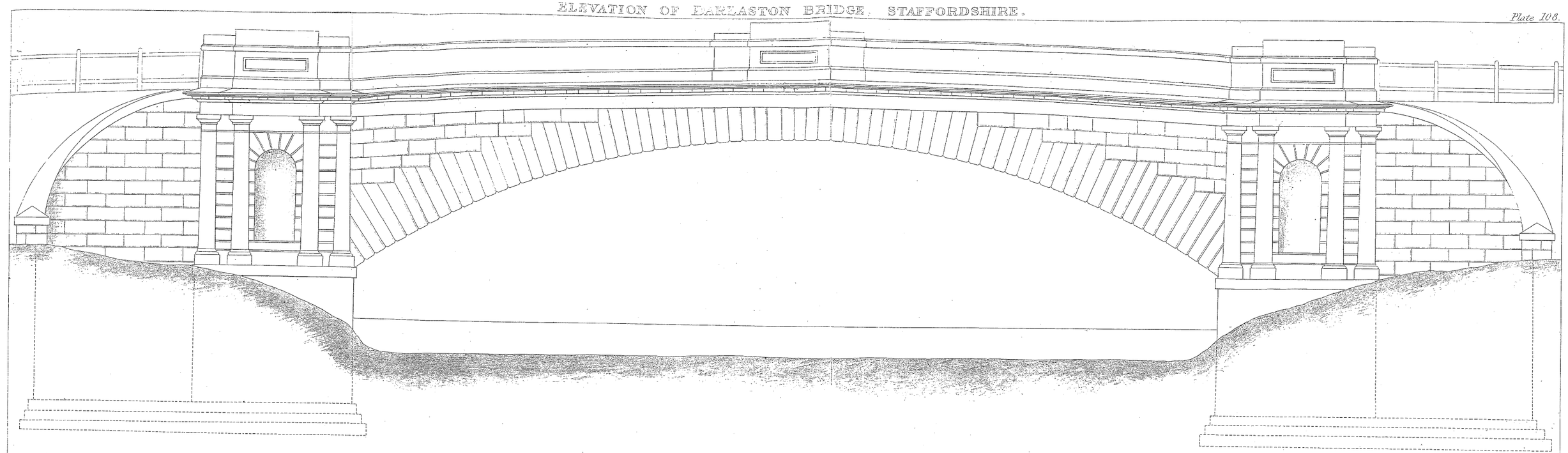
10 5 0 10 20 30

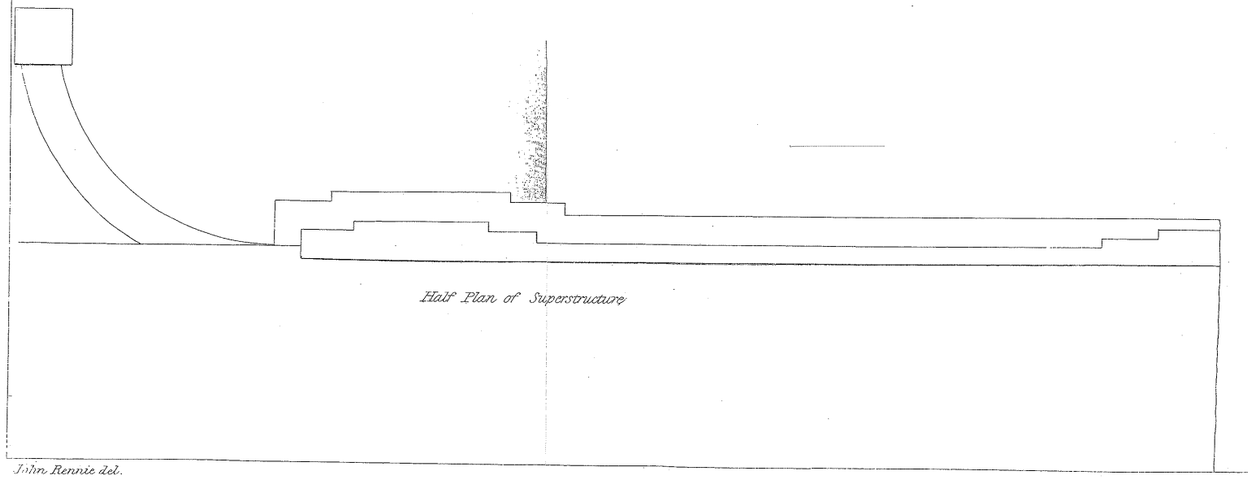
R. Stevenson, C.E. del.

F. Mansell sc.

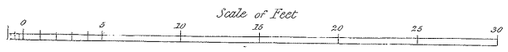
John Weale, Architectural Library, 59, High Holborn.

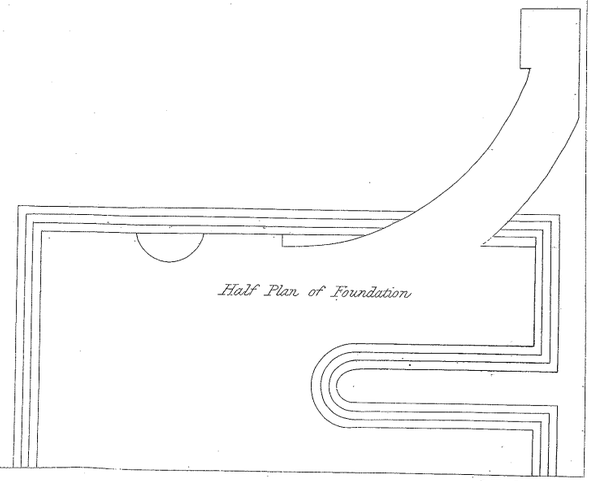
ELEVATION OF DARLASTON BRIDGE, STAFFORDSHIRE.





Half Plan of Superstructure





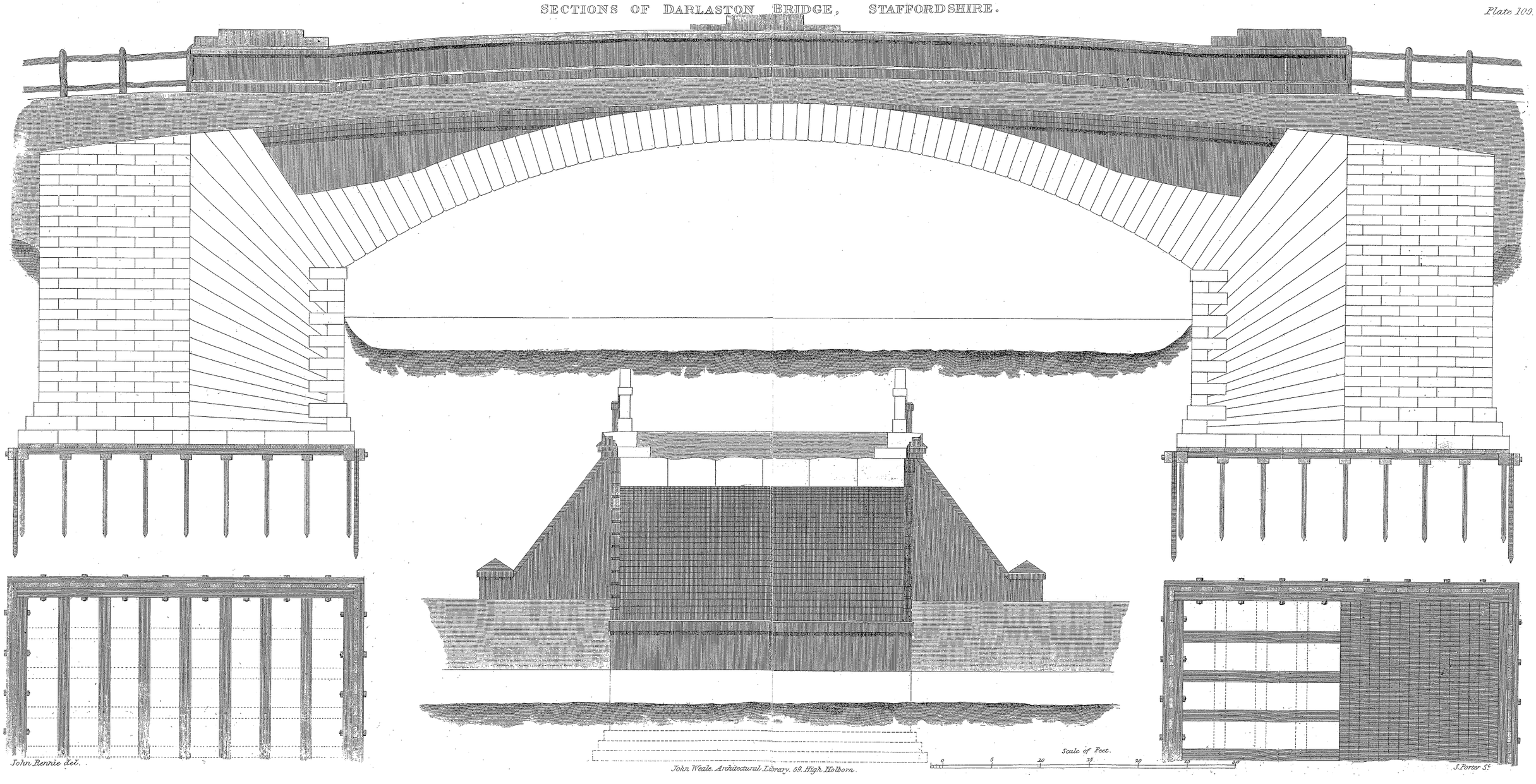
Half Plan of Foundation

John Rennie del.

John Weale, Architectural Library, 59, High Holborn.

J. Hawksworth sc.

SECTIONS OF DARLASTON BRIDGE, STAFFORDSHIRE.



John Rennie del.

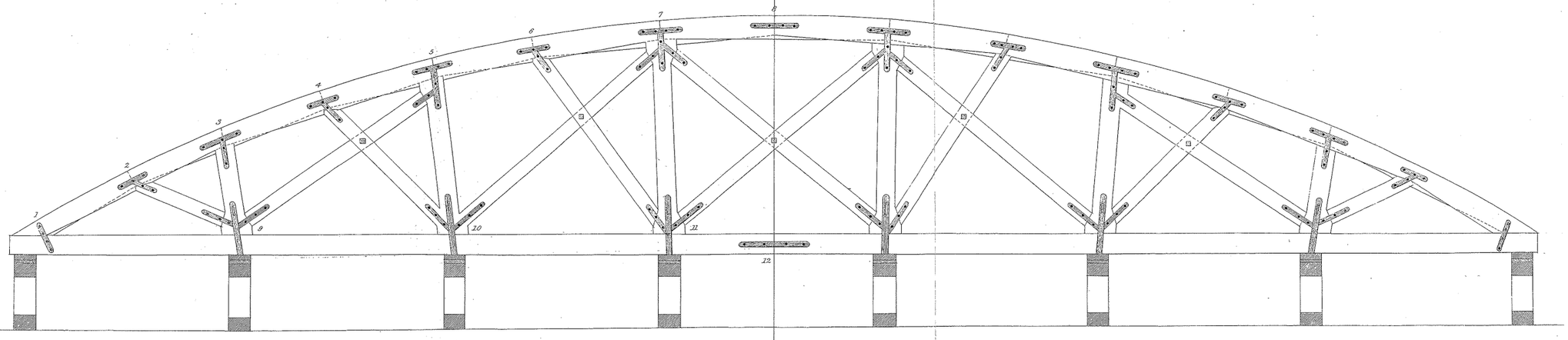
John Weale, Architectural Library, 59, High Holborn.

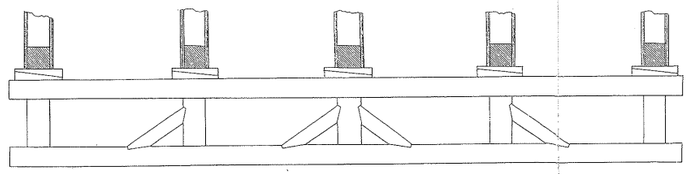
Scale of Feet.

0 5 10 15 20 25 30

S. Porter Sc.

CENTRING FOR DARLASTON BRIDGE.





Scale of Feet

0 1 2 3 4 5 10 15 20 25 30

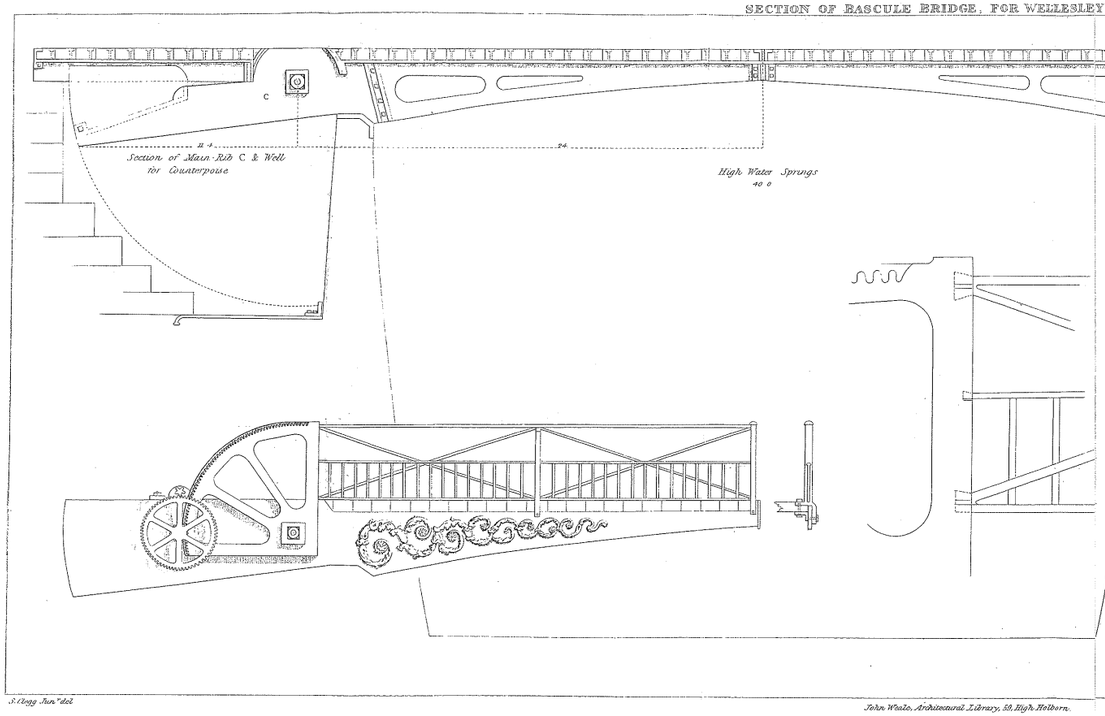
John Rennie del.

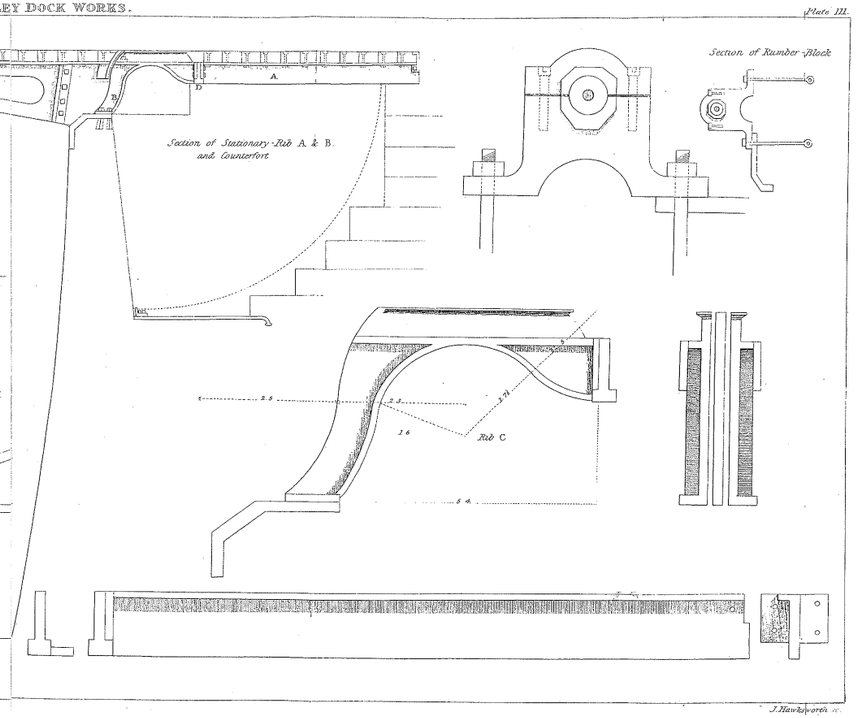
J. Hawksworth sc.

John Weale, Architectural Library, 59, High Holborn.

SECTION OF BASCULE BRIDGE, FOR WELLESLEY DOCK WORKS.

Plate III.





J. Clegg Jun.r del.

John Weale, Architectural Library, 59, High Holborn.

J. Hawksworth sc.

SECTION OF BASCULE BRIDGE, FOR WELLESLEY DOCK WORKS.

Plate 112

Section of Bascule Bridge, Counterfort, &c. &c.

SUPERSTRUCTURE

Plan shewing the Framing, and General Construction of the Bridge

John Weale, Architectural Library, 59, High Holborn.

J. Hawkesworth. 30

OUSE VALLEY VIADUCT, LONDON AND BRIGHTON RAILWAY.

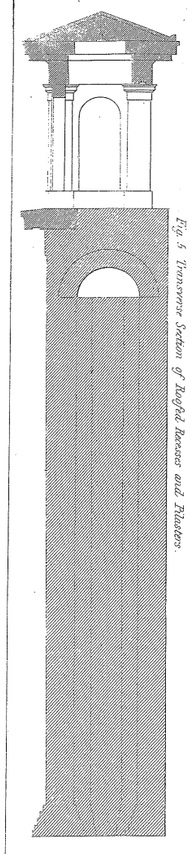


Fig. 4 Transverse Section of Roofed Recess and Pilasters.

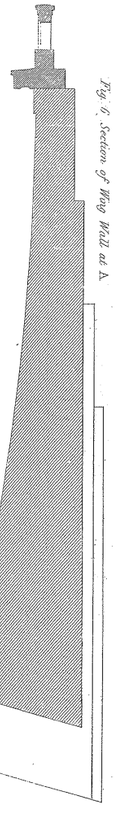


Fig. 5. Section of Wing Wall at A

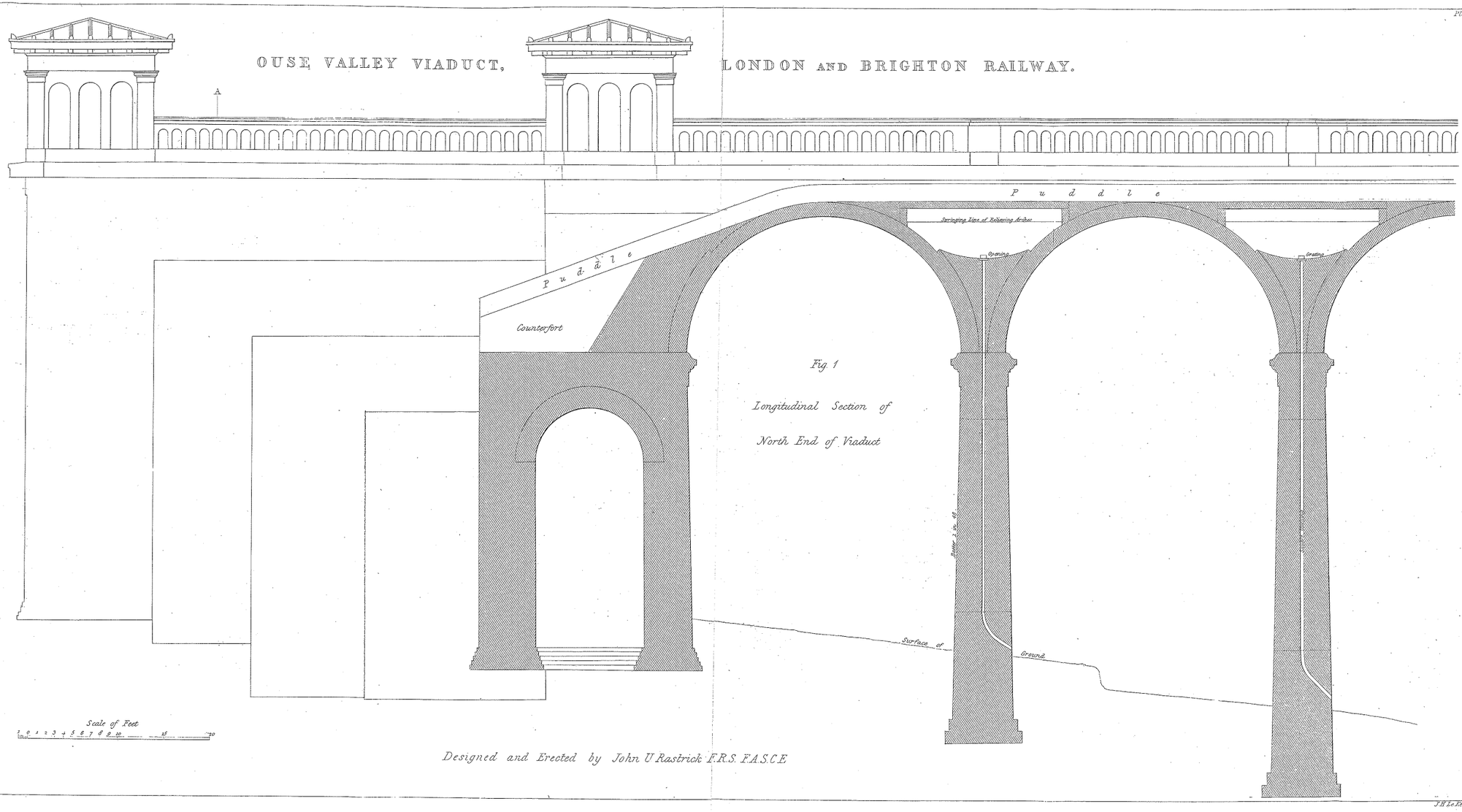


Fig. 1

Longitudinal Section of North End of Viaduct

Scale of Feet

1 0 1 2 3 4 5 6 7 8 9 10 15 20

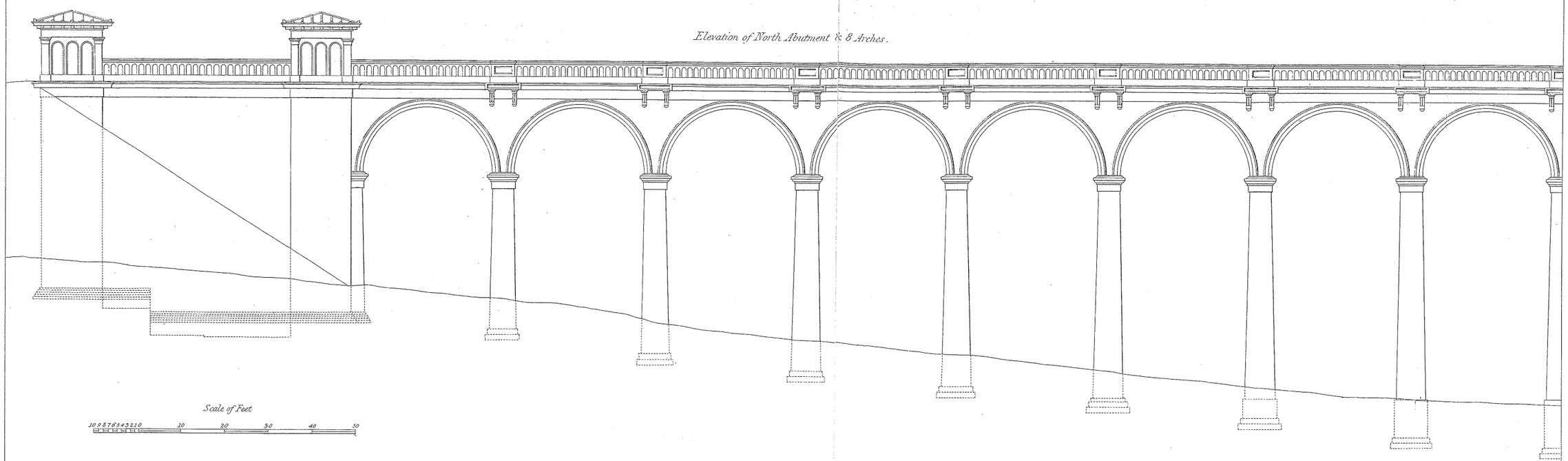
Designed and Erected by John U Rastrick F.R.S. F.A.S.C.E

Published by John U... 10 High Howden. 1849.

LONDON AND BRIGHTON RAILWAY.

Ouse Valley Viaduct.

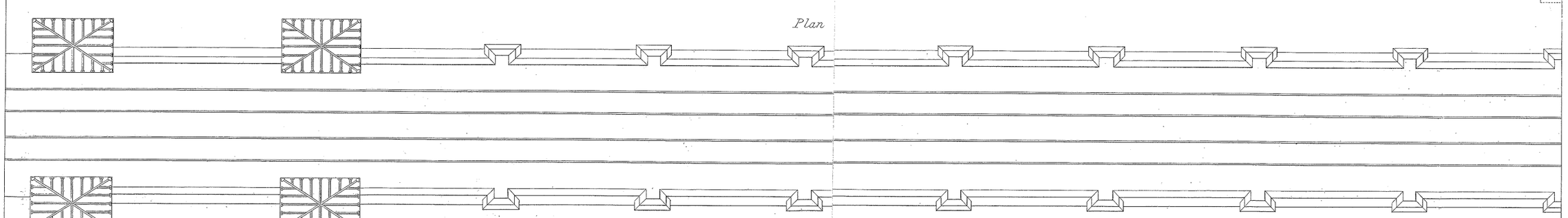
Elevation of North Abutment & 8 Arches.



Scale of Feet

10 9 8 7 6 5 4 3 2 1 0 10 20 30 40 50

Plan



John. U. Rastrick Esq. F.R.S. F.A.S. C.E.

Mem: There are 37 Arches, 30 Feet Span.

J. Underwood, del.

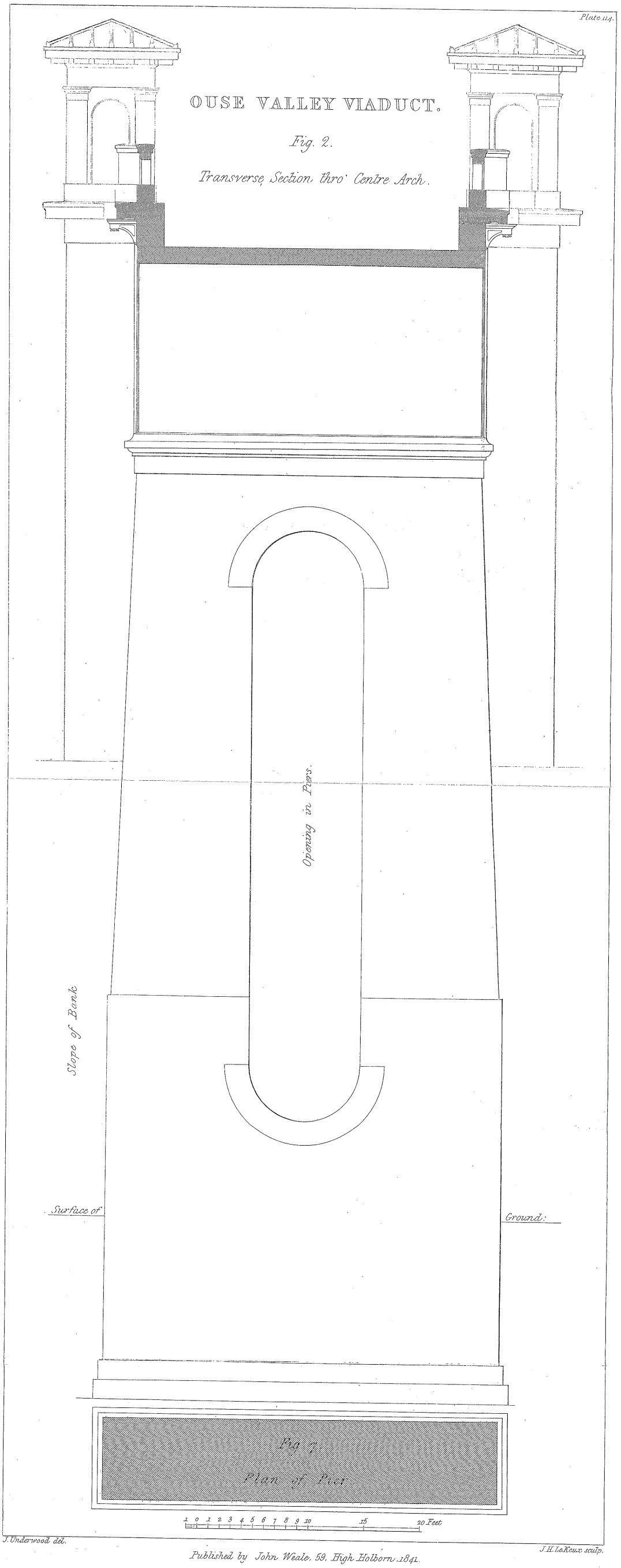
W.A. Beever, sc.

Published by John Weale, 59, High Holborn, 1842.

OUSE VALLEY VIADUCT.

Fig. 2.

Transverse Section thro' Centre Arch.

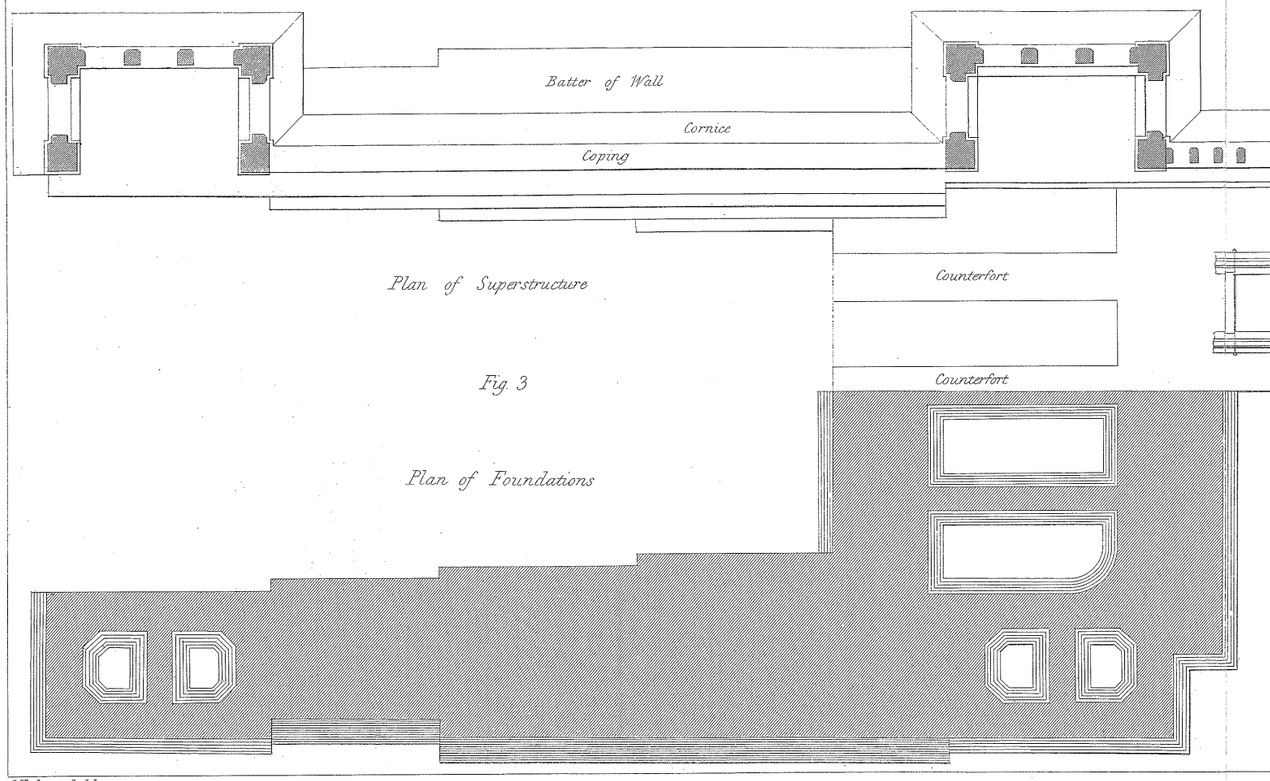


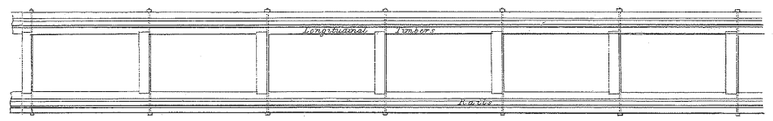
J. Underwood del.

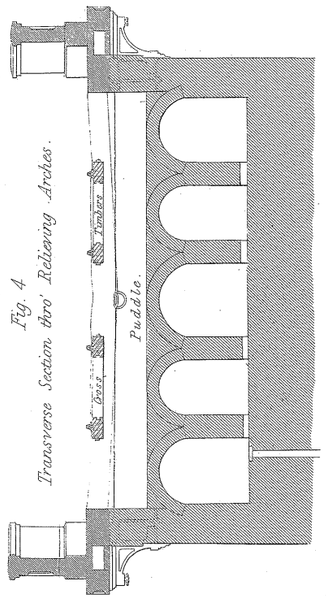
J. H. LeKeux sculp.

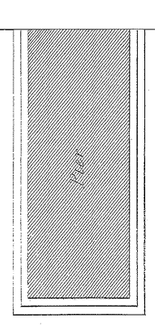
Published by John Weale, 59, High Holborn. 1841.

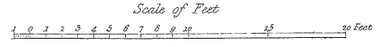
OUSE VALLEY VIADUCT.











J. Underwood. del.

J.H. LeKeux sc.

Published by John Weale, 59, High Holborn, 1841

OUSE VALLEY VIADUCT.

[DETAILS.]

Fig. 15

Half Transverse Section of Roofed Recesses.

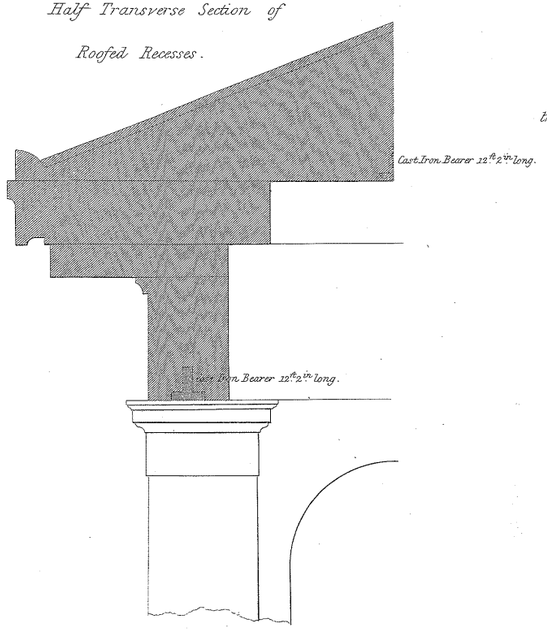


Fig. 8

Section thro' Recess.

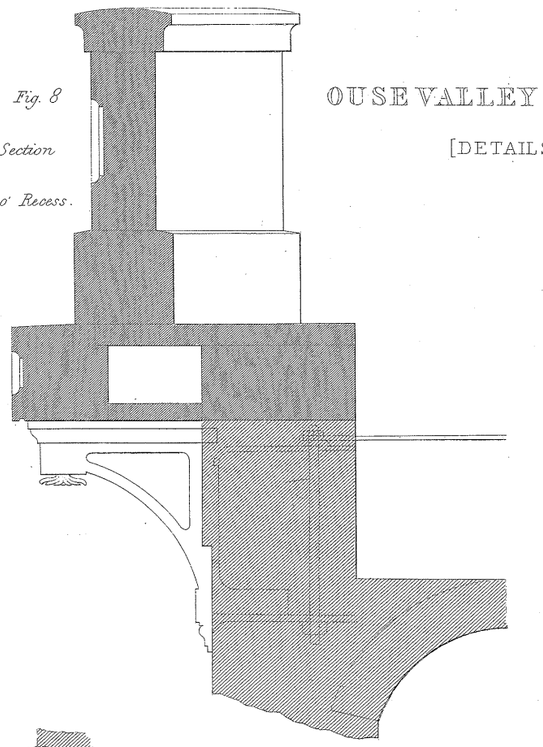


Fig. 9 Front Elevation of Recess.

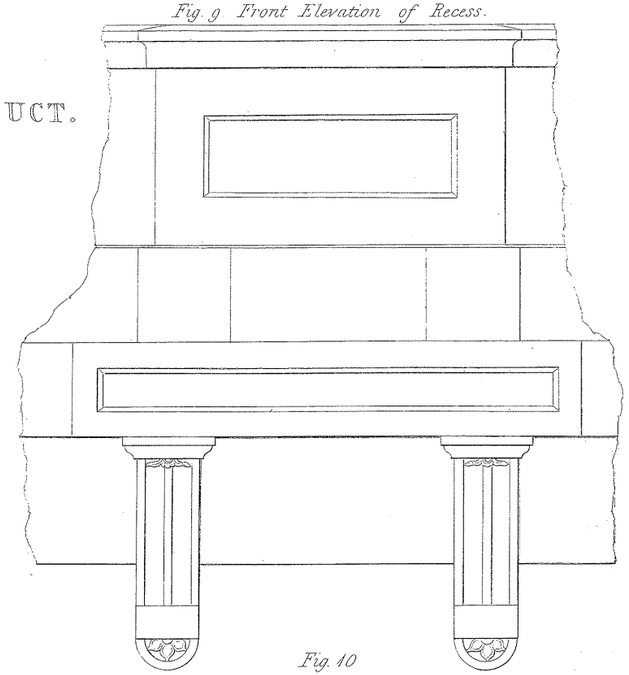


Fig. 12

Section thro' Parapet

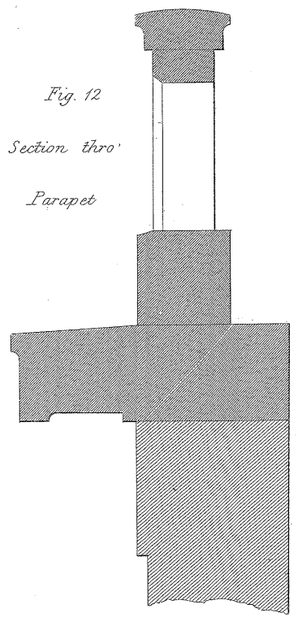


Fig. 16

Plan of Mullion

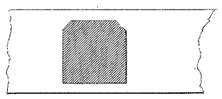


Fig. 13

Section of Pier Caps

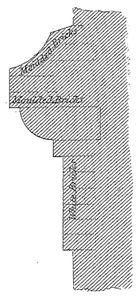
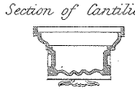


Fig. 11

Section of Cantilever



Scale of Feet

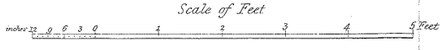


Fig. 10

Half Plan on top of Cantilievers

Half Plan at A.

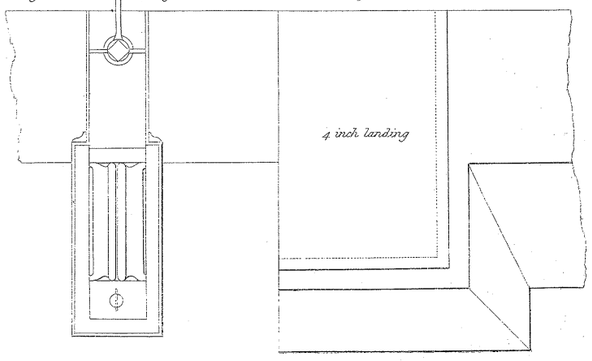
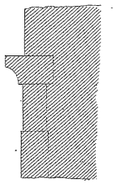


Fig. 14

Section of outside Brick Rings to the Arches

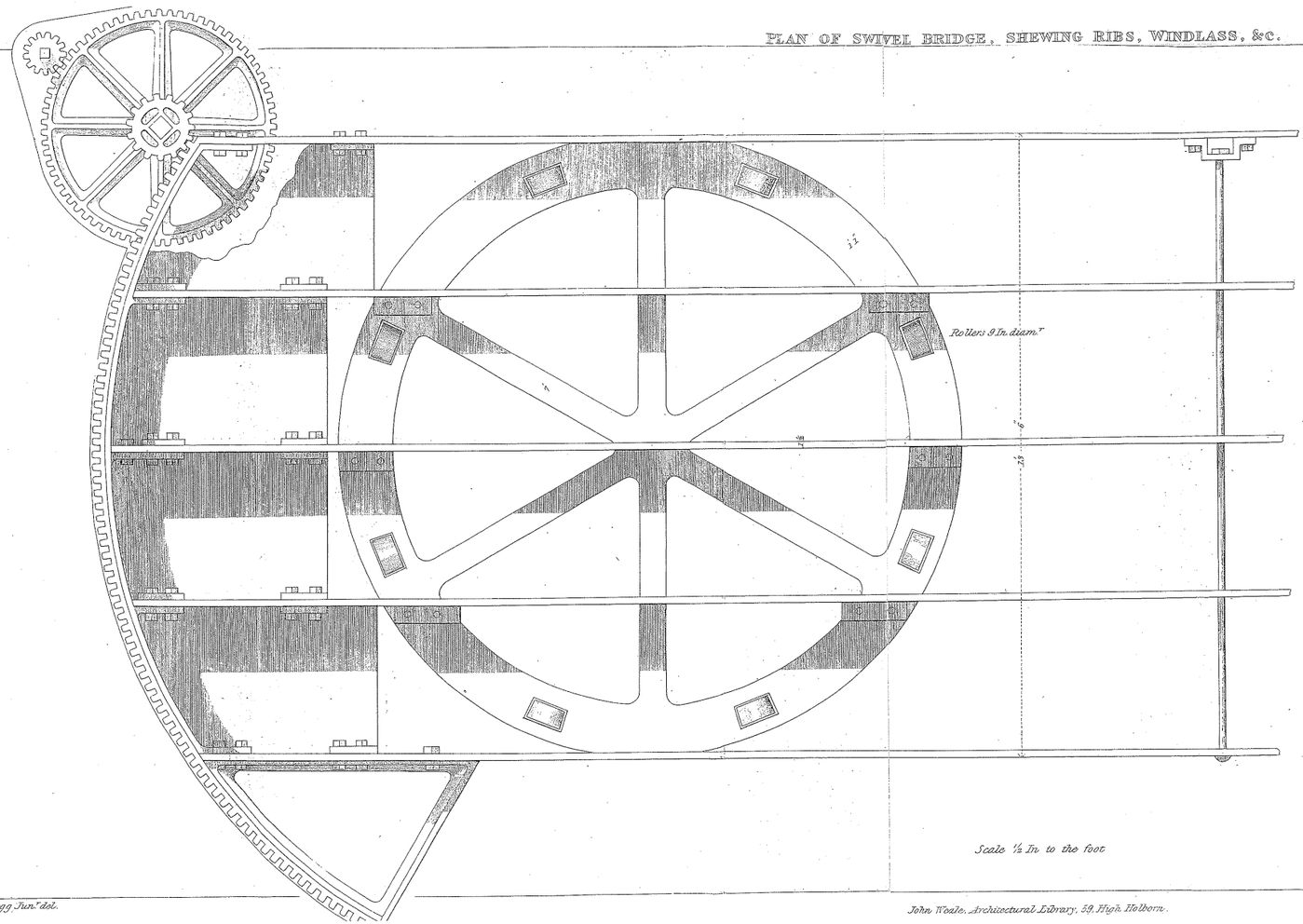


J Underwood del.

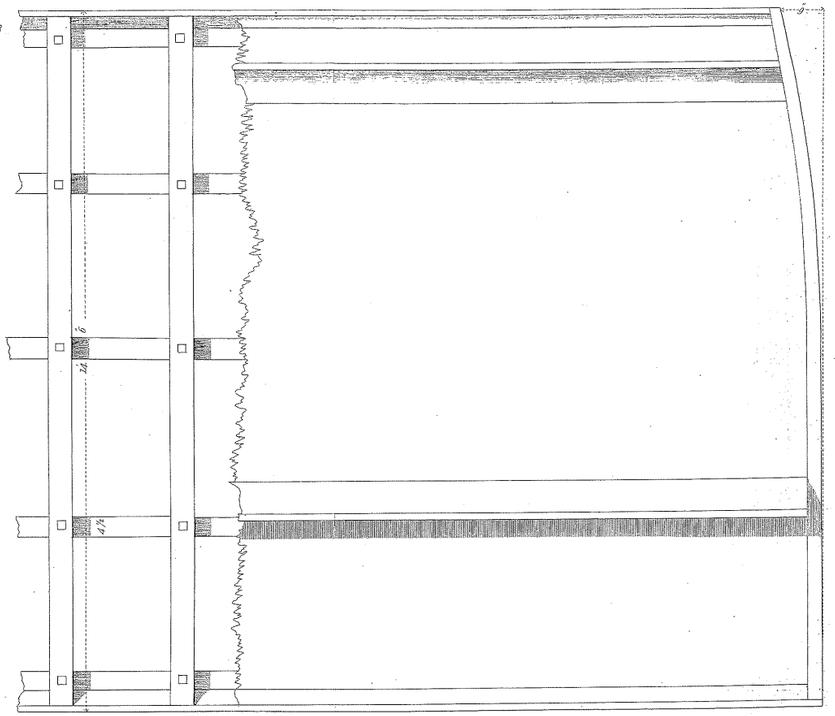
J.H. Le Keux Sculp.

Published by John Weale, 59, High Holborn, 1841

PLAN OF SWIVEL BRIDGE, SHEWING RIBS, WINDLASS, &c.



SUPERSTRUCTURE



Scale ½ In. to the foot

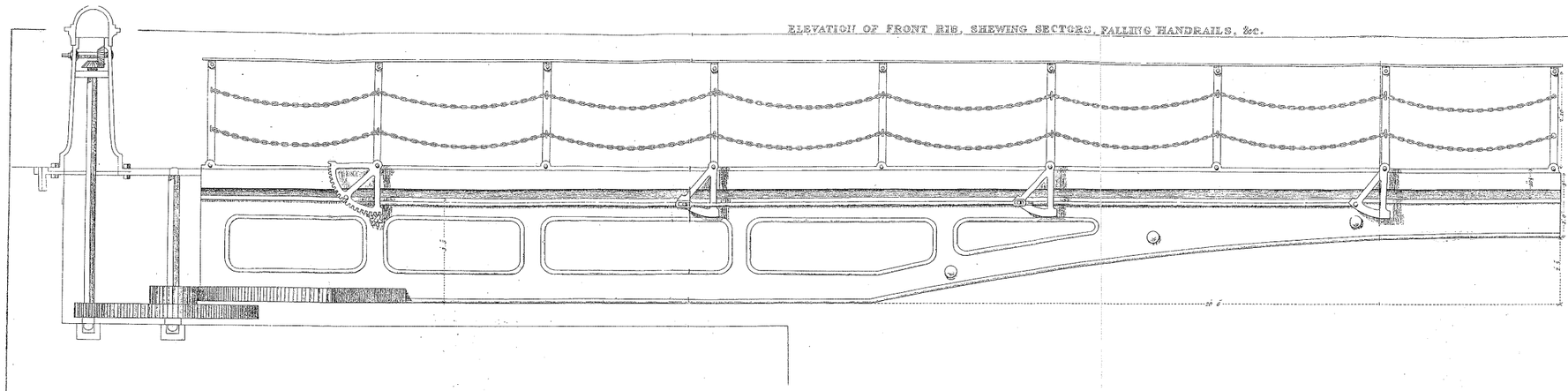
S. Clegg Jun.r del.

John Weale, Architectural Library, 59, High Holborn.

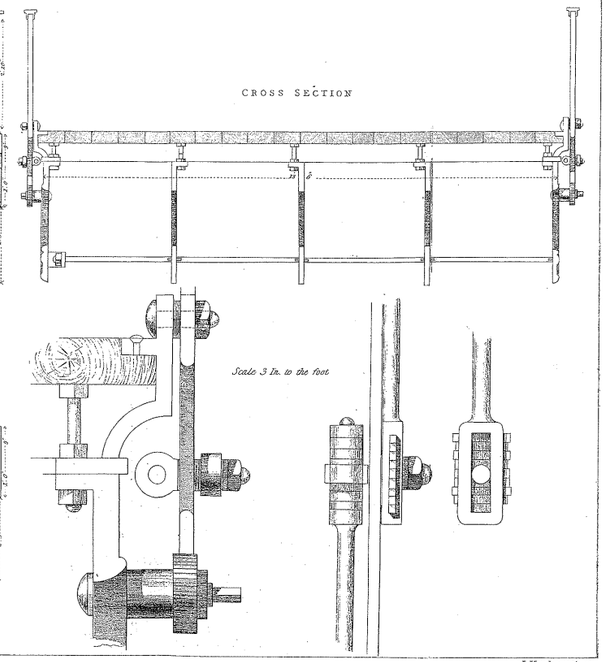
J. Hawksworth sc.

ELEVATION OF FRONT RIB, SHEWING SECTORS, FALLING HANDRAILS, &c.

Plate III.

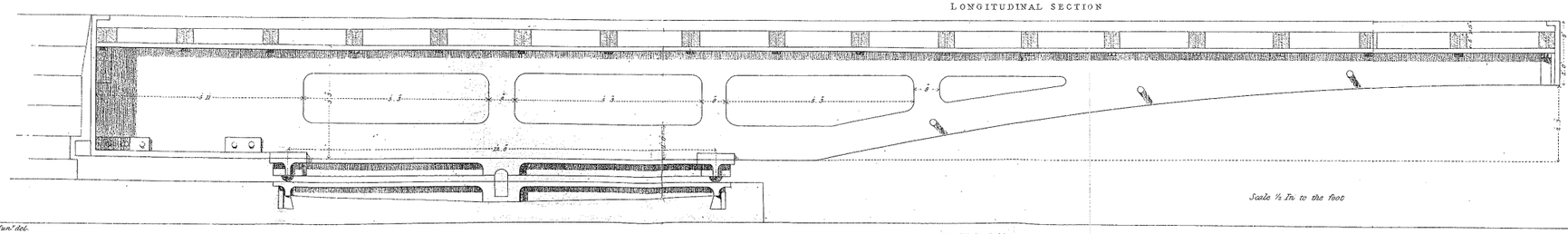


CROSS SECTION



Scale 3 In. to the foot

LONGITUDINAL SECTION



Scale ½ In. to the foot

S. Clegg Junr. del.

John Weale, Architectural Library, 59 High Holborn.

J. Hawkins sc.

CAST IRON SWIVEL BRIDGE ON THE NEWRY CANAL.

Pl.119.

Breadth between the Quay Walls 30.ft
Span of Arch 31.ft 4.in Radius 32.ft 4.in

Side Elevation

Elevation of Meeting Plate

Vertical Section

Part of Heel of Bridge

General Plan of Framing

Piece of Western Quay Wall

Transverse Section through A.B

Transverse Section through C.D

Scale of Feet

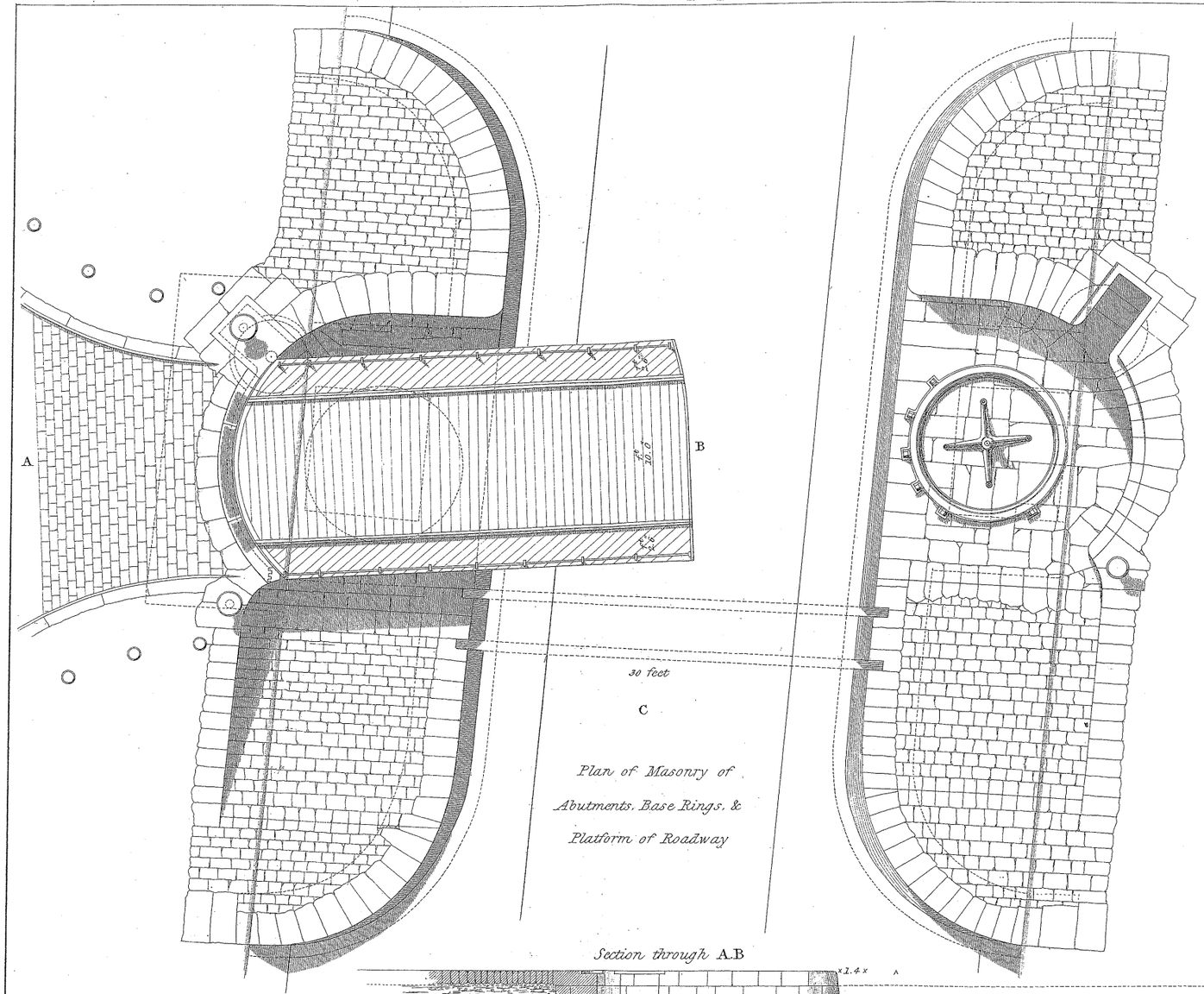
0 10 20 30 40

Mallet. C.E. del.

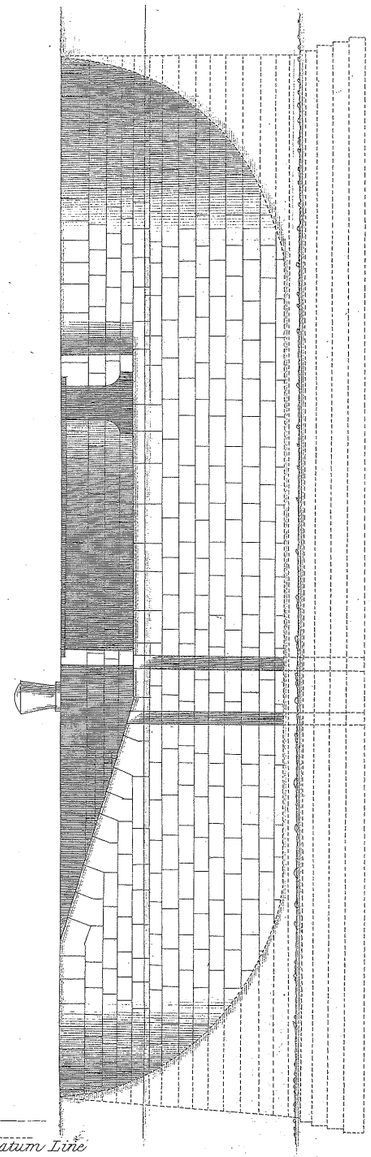
J. Hawksworth sc.

John Weale, Architectural Library, 59, High Holborn, October, 1842.

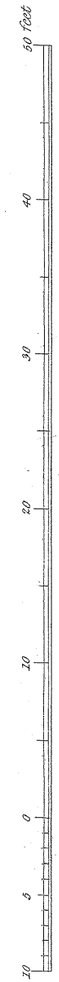
DETAILS OF THE SWIVEL BRIDGE OVER THE NEWRY NAVIGATION CANAL, IRELAND.



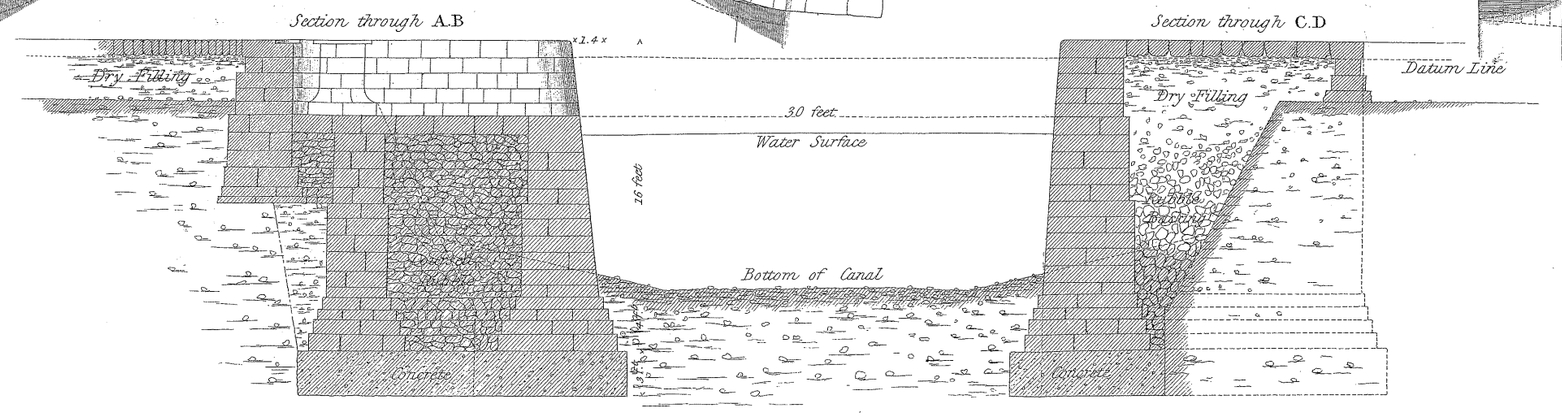
Plan of Masonry of Abutments, Base Rings, & Platform of Roadway



Front Elevation of Western Abutment



Abuments & Platform of Swivel Bridge, over the Newry Navigation Canal, at Newry in the County Armagh, Ireland



Mallet. Engineer

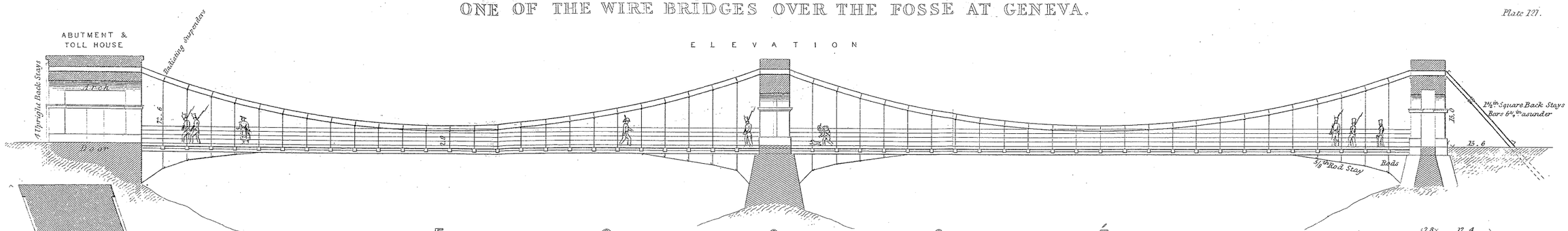
J. Hawksworth sc.

John Weale, Architectural Library, 59, High Holborn, October 1842.

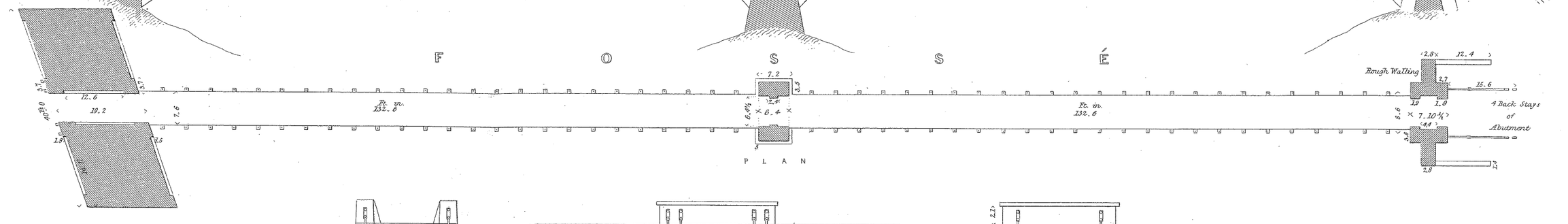
ONE OF THE WIRE BRIDGES OVER THE FOSSÉ AT GENEVA.

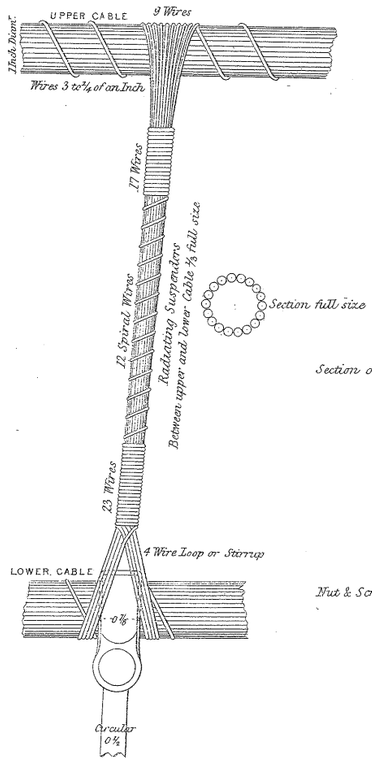
Plate 127.

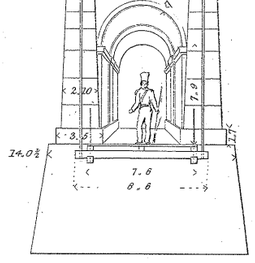
ELEVATION



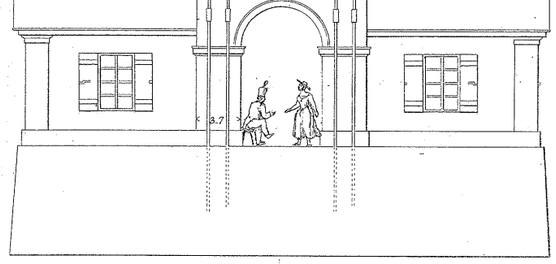
PLAN



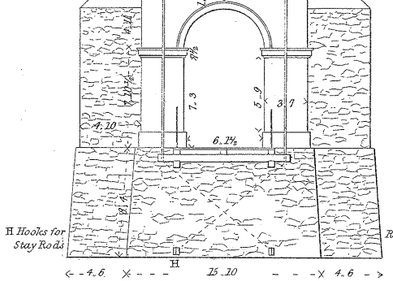




ELEVATION OF CENTRE PIER OF BEARING



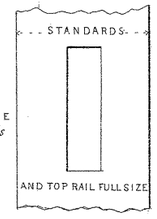
ELEVATION OF TOLL GATE



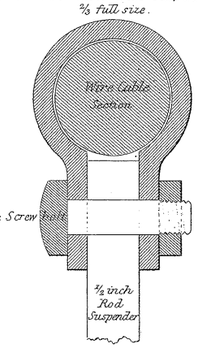
INNER ELEVATION OF ABUTMENT ARCH

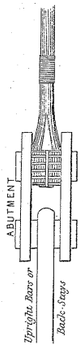
Under Platform

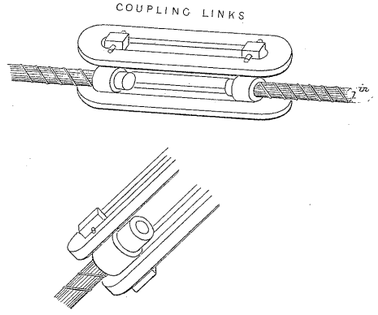
The 3 Horizontal pieces C D E pass thro' Standards

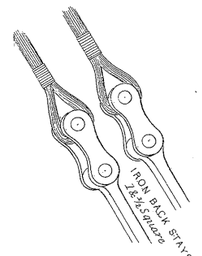


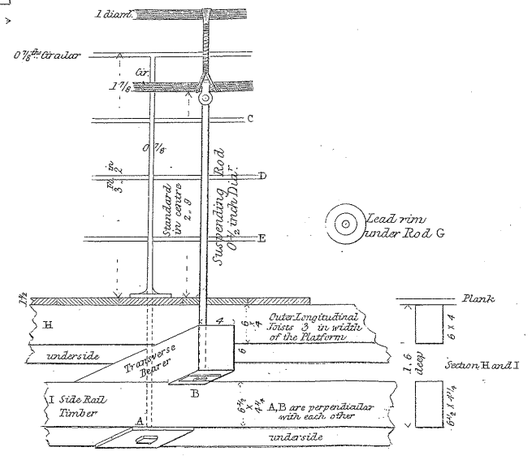
Section of Wire Cable with Suspending Rods ⅔ full size.











A B Plate Iron at bottom of the Suspending Rods and Standards of Railing both wormed and a nutt screwed on.

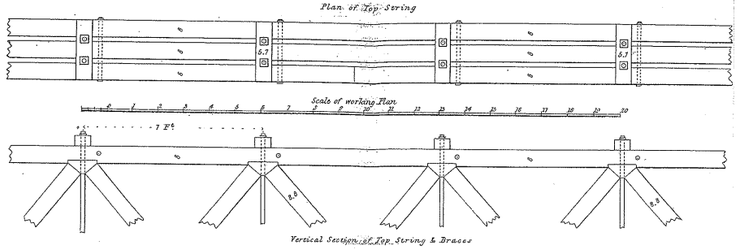
James Noble Architect del.

J. W. Lowry sculp.

London Published by John Weale Architectural Library 59 High Holborn. 1842.

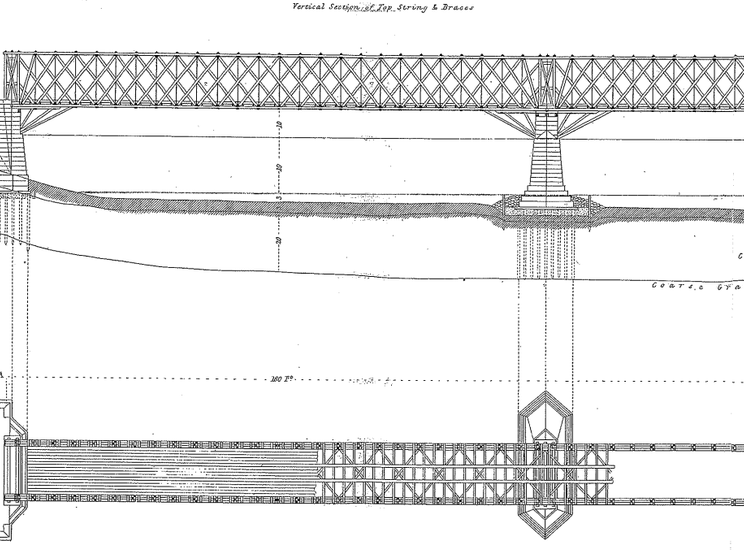
WESTERN RAIL ROAD CONNECTICUT RIVER BRIDGE.

Plan of Top String



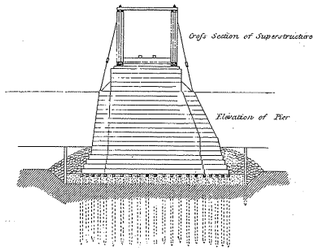
Scale of working Plan.

Vertical Section of Top String & Braces



Geo. W. Whistler Engineer.

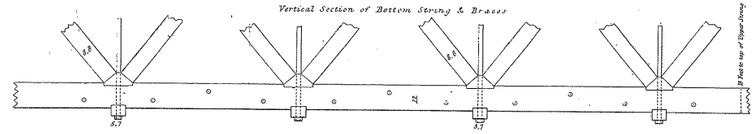
Cross Section of Superstructure



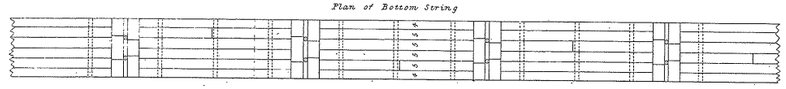
Elevation of Pier

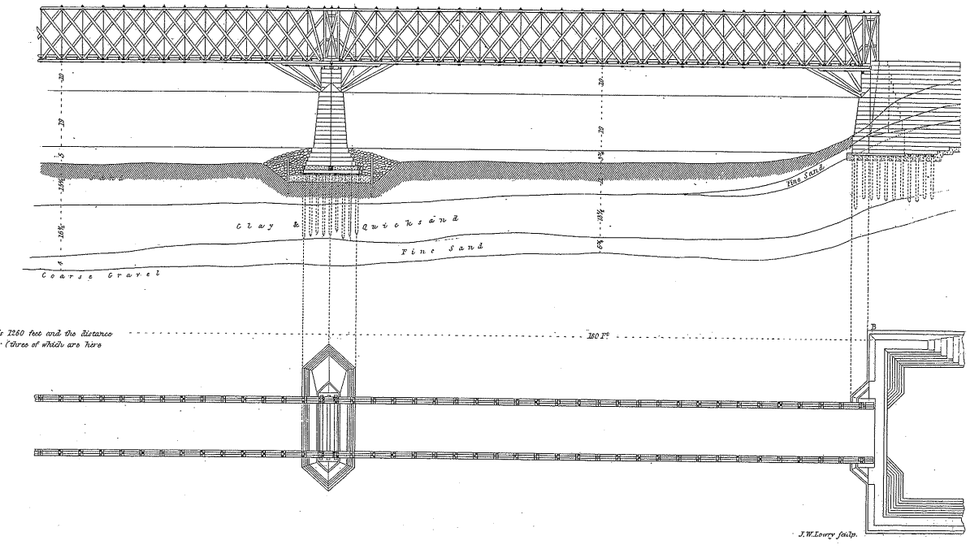
The total length of the Bridge is 1760 feet and the distance between the centre of each Pier (three of which are here omitted,) is 160 feet.

Vertical Section of Bottom String & Braces



Plan of Bottom String





J.W. Lowry sculp.

London: Published by John Weale Architectural Library, 59. High Holborn Sept.r 1842.